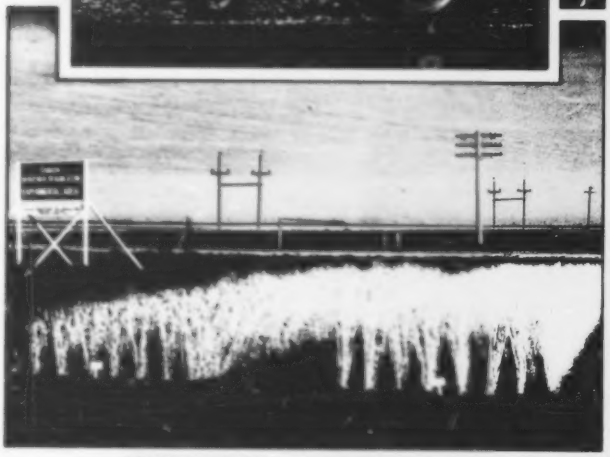
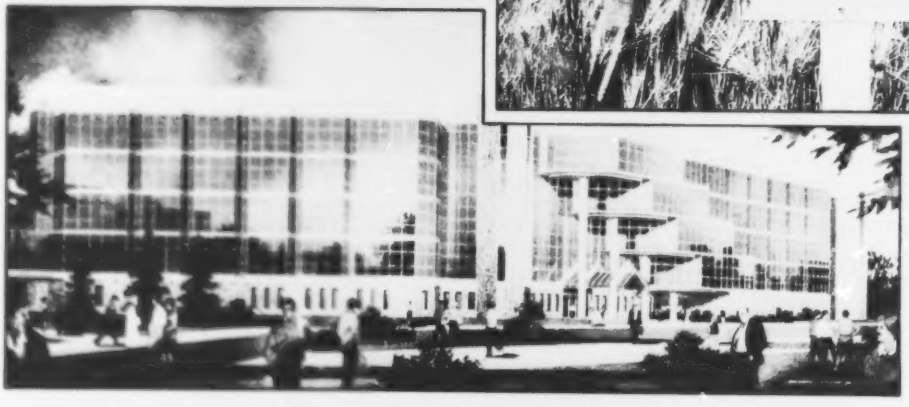
Agriculture Development Fund
Progress Report 1986 - 1987





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Agriculture Development Fund Progress Report 1986-87

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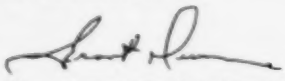
As Minister of Agriculture, I am pleased to present the Agriculture Development Fund's (ADF) second annual progress report.

Through the ADF, the Government of Saskatchewan has made a commitment to the future of farming. The five-year, $200 million fund is helping to ensure that Saskatchewan farmers remain in the forefront of agricultural development.

Government, producers, researchers and agribusiness are joining forces to meet many of the challenges of the agricultural industry.

Faced with increased production costs and falling prices, we are working to diversify the province's agricultural economy. Through funding provided by the ADF, new varieties of crops are being developed, new cropping practices are being tested, innovative methods of insect and disease control are being investigated and new grazing techniques are being evaluated. In addition, courses are being introduced to update farm management practices, and a new College of Agriculture building is being erected at the University of Saskatchewan.

Agriculture has always been and will remain the backbone of Saskatchewan's economy, and programs such as the ADF will continue to prepare producers for the future.



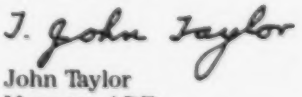
Hon. Grant Devine, Premier,
Minister of Agriculture

The ADF is dedicated to developing research theories and producers' innovations for practical implementation on Saskatchewan farms.

In the past year, the ADF funded 213 research and development projects and 109 demonstration projects. It provided financial support to the Saskatchewan Water Corporation, the Saskatchewan Irrigation Development Centre, the POS (Protein, Oil and Starch) Plant, the Veterinary Infectious Disease Organization (VIDO), and to the construction of a new College of Agriculture building at the University of Saskatchewan.

In addition, the ADF introduced a communications program designed to keep the public informed on progress and results of projects. **ADF**News, a monthly newsletter, was initiated in December and is now distributed to 5,000 producers, researchers and agribusinesses throughout the province. A computer database is also being established to make project information and results accessible to all. A publication summarizing all of the project results is also being produced.

It is the ADF's goal not only to support research and development but to keep our farmers informed. The future of the ADF is only as strong as the ideas of the people that make it possible. Saskatchewan people have a history of turning challenges into opportunities. I believe that in working together through the ADF, we can continue turning today's agricultural challenges into tomorrow's agricultural opportunities.



John Taylor
Manager ADF

Introduction

Through the Agriculture Development Fund (ADF) scientists and specialists are working with producers in an attempt to solve today's agricultural problems.

The Agriculture Development Fund (ADF) was initiated by the Government of Saskatchewan in the spring of 1985 to support agricultural research, development and demonstration projects.

The five-year, $200 million program funds activities in areas such as crops and forages, irrigation, soils, livestock, land improvement, engineering, marketing, new product development and agricultural processing.

Applications, available through Saskatchewan Agriculture, are processed four times a year: January 1, April 1, July 1 and October 1. Any individual or organization with an idea that will benefit agriculture in Saskatchewan is eligible to apply.

Applications are reviewed by five major technical committees: crops, soils, livestock, irrigation, and human resources. Committee membership is listed in this report.

In the case of research and development applications, a committee composed of Saskatchewan Agriculture senior management staff approves projects and awards funding. Decisions are based largely on the recommendations and priority ratings awarded by the technical committees.

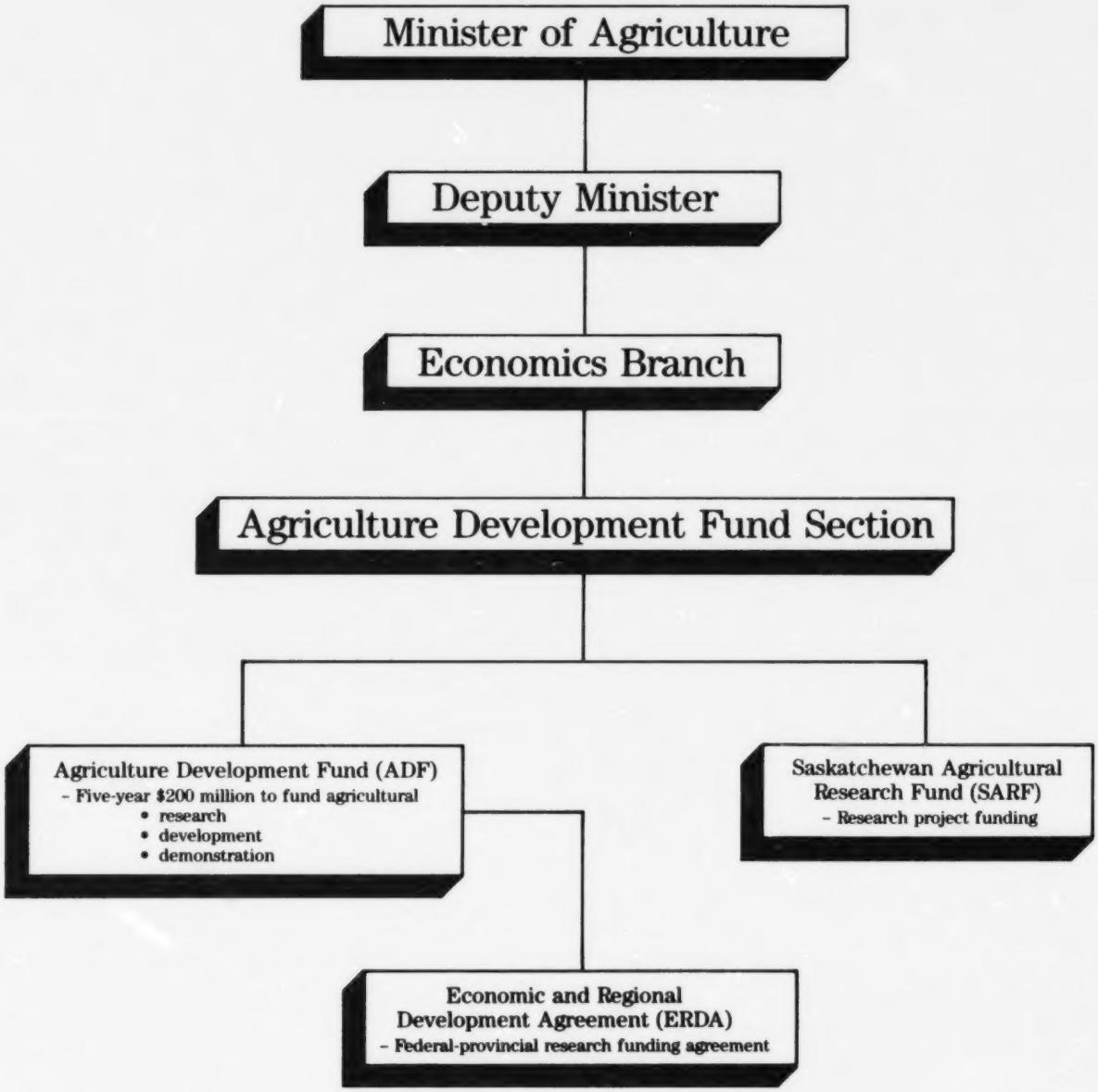
The committee charged with approving demonstration project applications is composed of Saskatchewan Agriculture's Director of Extension, regional directors, two farmer representatives from Regional Extension Councils and the manager of ADF. Their decisions are also based on the technical reviews.

Applicants with approved projects are then invited to enter into a contract with Saskatchewan Agriculture.

In addition to the direct provincial contribution, the ADF also administers funding from the federal-provincial Economic and Regional Development Agreement (ERDA), a sub-agreement on agriculture, and the Saskatchewan Agriculture Research Fund (SARF).

This report provides a brief summary of all publicly funded agricultural research, development and demonstration activities in Saskatchewan during 1986-87. For ease of reference they have been divided into six major areas: crops, soils, livestock, irrigation, human resources and engineering.

Organizational Chart



Crops

Biological control of the bertha army worm is being tested at the University of Saskatchewan.

Saskatchewan markets more grain than any other province in Canada. To remain competitive on the world market, development of new varieties and cropping practices must continue. Recognizing this need, the ADF provided money for 134 crop research, development and demonstration projects in 1986-87.

Working with the Flax Growers Western Canada Association and the Flax Council of Canada, the ADF published a manual entitled "Growing Flax" to provide information on flax production.

The ADF has also joined forces with the Wild Rice Council to support research, development and demonstration of seeding, harvesting, storage and marketing of wild rice in northern Saskatchewan.

Methods of improving Saskatoon berry production are being explored through funding provided by the Agriculture Development Fund (ADF).

Scientists in Saskatoon continued their efforts to breed canola plants resistant to sclerotinia and black leg. Testing of a selected salt tolerant flax strain also continued.

In addition, the ADF supported the search for and development of new and improved pulse crops such as lentils and fababeans. One experiment involved growing of Indianhead lentils as half of a summerfallow rotation in the brown soil zone.

Alternative crop rotations are being developed as a key to soil conservation and nitrogen replacement. The practicality of Intensive Cereal Management(ICM) in Saskatchewan is also under investigation.

Efforts in the development of bioinsecticides as pest control agents were also supported by the ADF. In the future, this could mean the availability of natural control agents for pests such as grasshoppers.

Understanding the need for agriculture diversification, the ADF also supported investigations into several new endeavors such as establishment of an ethanol plant in the province and the development of a straw particle board industry.

Soils

Fertilizer use and application methods are being studied in cooperation with the universities and chemical companies.

Saskatchewan farm land is precious - but fragile.

Like any natural resource, soil must be managed properly if it is to keep working for us. It is estimated that an average of 175 million tons of topsoil is lost through wind erosion each year, and the productive capability of more than five million acres of prairie farm land is now adversely affected by excess salts. Although estimating losses from water erosion is more difficult, it is believed to be of a similar magnitude.

Through the ADF, 62 soil management research, development and demonstration projects were supported in 1986-87.

In accordance with the National Agricultural Strategy, $500,000 was committed to a pilot project designed to promote soil and crop management practices that will maintain soil quality. The "Save Our Soils" program provides funding to district extension boards to conduct demonstrations of control methods for wind and water erosion, soil salinity and declining organic matter levels, as well as educational tours and meetings that promote soil conservation.

Soil conservation practices such as minimum tillage which include seeding into standing stubble are being demonstrated throughout the province.

Soil surveying continued throughout the province, providing detailed information on agricultural land and its sensitivity to erosion, acidification, salinization and declining levels of organic matter. In the past year about two million acres have been surveyed and mapped.

A project involving the National Hydrology Institute, Agriculture Canada and the University of Saskatchewan was launched to improve the application and efficiency of snow management practices in the province.

The ADF, through the Economic and Regional Development Agreement (ERDA), also approved funding of a $110,000 soil management project in conjunction with Western Co-operative Fertilizers Limited and the Saskatchewan Wheat Pool to develop a fertilizer program suited to extended crop rotations in east central Saskatchewan.

In addition, ADF committed $456,000 to a nitrogen fixation and fertilizer project initiated by Esso Chemical Canada.

In early 1987 the Saskatchewan Soil Conservation Association (SSCA) was initiated. A producer-run organization, its mission is "to encourage soil conservation by promoting crop production systems which reduce soil degradation and maintain economic viability."

Livestock

Staff at the Veterinary Infectious Disease Organization (VIDO) are using state of the art technology to produce treatments for common livestock diseases such as scours.

The livestock industry is playing a major role in the diversification of Saskatchewan's farm economy. In the past year it generated cash receipts of $760 million, an increase of $35 million over 1985-86. In addition, biotechnological advances opened new frontiers of development in the industry.

During 1986-87, 94 research, development and demonstration projects were funded by the ADF. A project was initiated to test the viability of alternative grazing methods such as high intensity-low frequency (HILF) grazing. The feasibility of game farming was investigated and publication of "Game Farming Tips" was begun. Work was also initiated on the development of technology for identifying foot and leg problems in bulls. In laboratories at the University of Saskatchewan, scientists continued to search for cures of common livestock diseases and methods of stimulating animal growth and lactation.

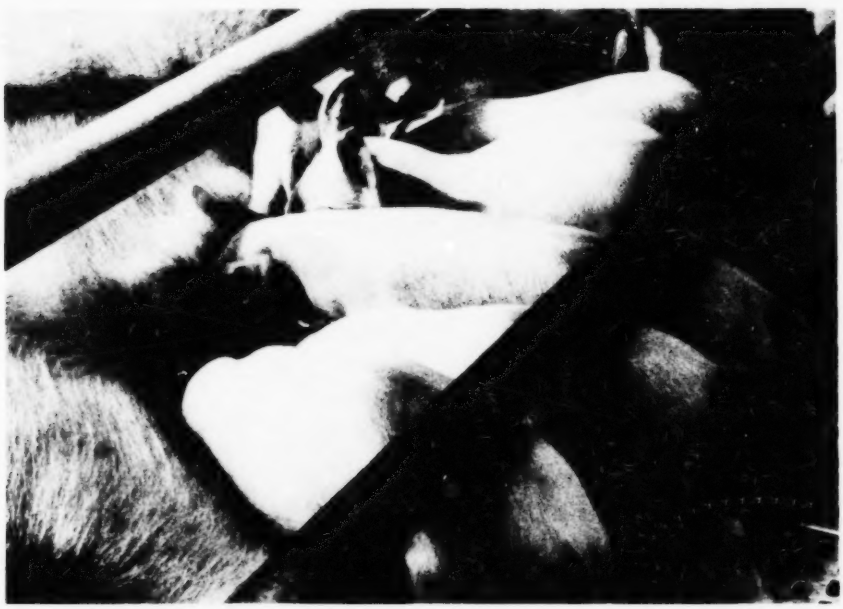
At the Veterinary Infectious Disease Organization (VIDO) laboratory, scientists are using immunomodulators to develop vaccines for common problems such as calf scours and diarrhea.

The Department of Animal and Poultry Science at the University of Saskatchewan is studying somatostatin as a possible method of stimulating animal growth and lactation.

Housing alternatives for swine were investigated and a technology transfer program set up through the Saskatchewan Pork Producers Marketing Board. Working with producer associations of all kinds, the ADF is taking research and development to all corners of the province.

A demonstration project, being conducted near Baldwinton, is giving farmers first-hand experience in the operation of a custom feedlot.

ADF funds also supported the development of a preconditioning feeder project and various other demonstrations throughout Saskatchewan.



Animal housing and environmental conditions are being improved in an effort to increase production and survival rates.

Irrigation

A variety of irrigation equipment is being used in tests conducted at the Saskatchewan Irrigation Development Centre (SIDC).

Irrigation is not a new development in Saskatchewan. As early as 1900 it was part of farming practices in the Cypress Hills district. Today, with the advent of modern technology and increased funding for research, development and demonstration, the use of irrigation has spread throughout the province.

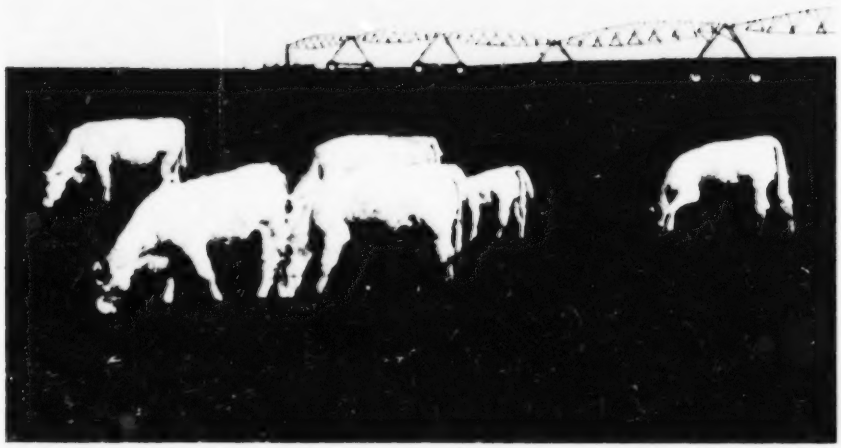
In 1986, the Saskatchewan Irrigation Development Centre (SIDC) was established to coordinate research and demonstrate technology, crop management and soil conservation related to irrigation.

Funded by the ADF and jointly staffed by Saskatchewan Agriculture and Agriculture Canada PFRA, the centre, located near Outlook, conducted a variety of projects during 1986-87.

Projects included: the management of forage and intensive cereal production under irrigation; an evaluation of field beans as an alternative crop; herbicide, nutrient and water drainage from an irrigated field; maximizing semi-dwarf barley production and the initiation of an irrigated crop disease study.

In addition, about 200 farmers qualified for individual on-farm irrigation development money. Funds totalling almost $700,000 helped develop over 9,000 acres of land for irrigation during 1986-87.

Providing $7.2 million to the Saskatchewan Water Corporation, the ADF also indirectly funded the investigation, development and maintenance of group irrigation projects. One of the major ventures supported in 1986-87 was the Luck Lake Irrigation Project which over five years will provide a water supply system to irrigate a potential of 18,000 acres near Birsay, Saskatchewan.



The management of forage and intensive cereal production under irrigation is being studied through funding provided by the Agriculture Development Fund (ADF).

Engineering

The advent of more intensive livestock and cropping operations in the province has led to a demand for more sophisticated housing systems, new farming equipment and farm fuel alternatives.

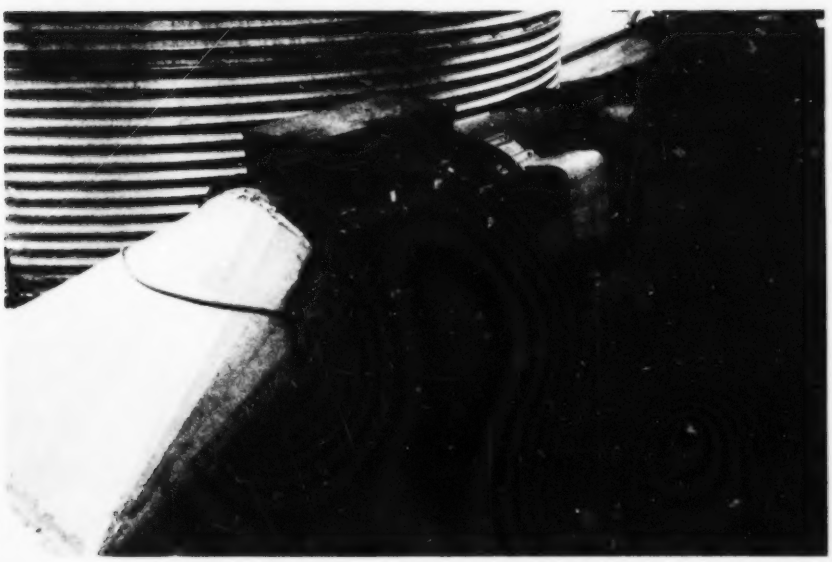
During 1986-87, several projects were funded through the ADF to aid in the development of improved environmental control systems for intensive, confined livestock operations.

A comprehensive study of environmental factors in swine barns and their association with respiratory disease, management and productivity was initiated. Ventilation fan controllers and a device to measure humidity are being tested at the Prairie Agriculture Machinery Institute (PAMI) in Humboldt. In addition, a computer program has been developed to aid extension engineers in ventilation design work and to show producers the factors that influence ventilation and heating requirements in their barns. A project has also been carried out to evaluate the feasibility of using a microprocessor-based system to do barn monitoring in a farm situation.

Extensive testing of the Conserva-Pak seeding system, designed by an Indian Head farmer, highlighted new farming equipment development.

Research and demonstration of compressed natural gas (CNG) as a farm fuel alternative continued during 1986-87. In order to evaluate the performance and reliability of CNG, half-ton trucks, grain trucks and two-wheel diesel tractors on several test farms are being converted to run on CNG. The main demonstration portion of the project is to continue through 1987.

Other projects approved for funding were a test to determine the benefits of adding supplemental heat to a natural air grain drying system, the creation of an innovative natural air drying system, the development of a tractor navigation system, spray application technology demonstrations, and the development of a new harvesting system.



Researchers at the Prairie Agricultural Machinery Institute (PAMI) in Humboldt are studying the advantages and disadvantages of heating the inlet air when using a natural air grain drying system.

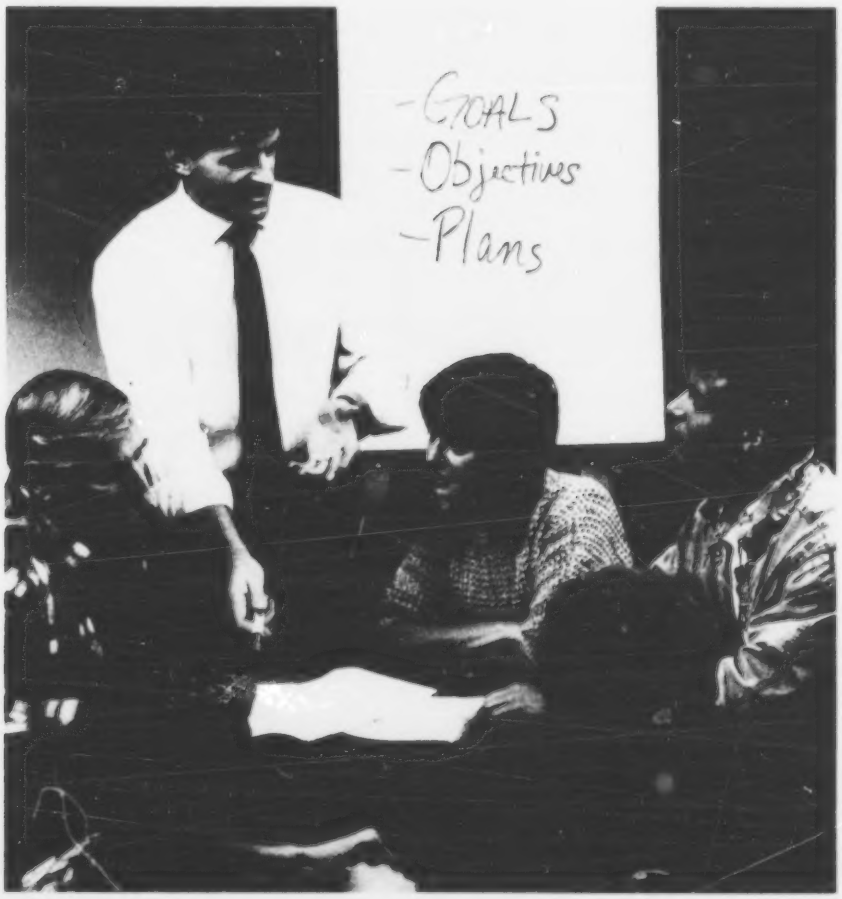
Human Resources

Today, more than ever before, farming is a business - a business that demands careful financial management and astute leadership.

In response to the new challenges facing farmers the ADF supported 32 projects focusing on the development of farm leadership and management skills. A home study course in computer operation was developed for farm management. Several microcomputer literacy courses, specifically designed for farmers, were held throughout the year at various locations in the province.

In addition, a million-dollar project was launched to help farmers identify goals, set priorities, and learn new financial skills. The project, known as "Farming To Win", is receiving positive response from the farming community. During 1986-87, 58 groups, representing 504 farms, were initiated throughout the province. Participant numbers are expected to increase in the next project year.

Among other projects approved was a survey into the use of computers for farm management and a course for women in local decision making.



The "Farming to Win" program was launched to help farmers identify goals, set priorities, and learn new financial skills.

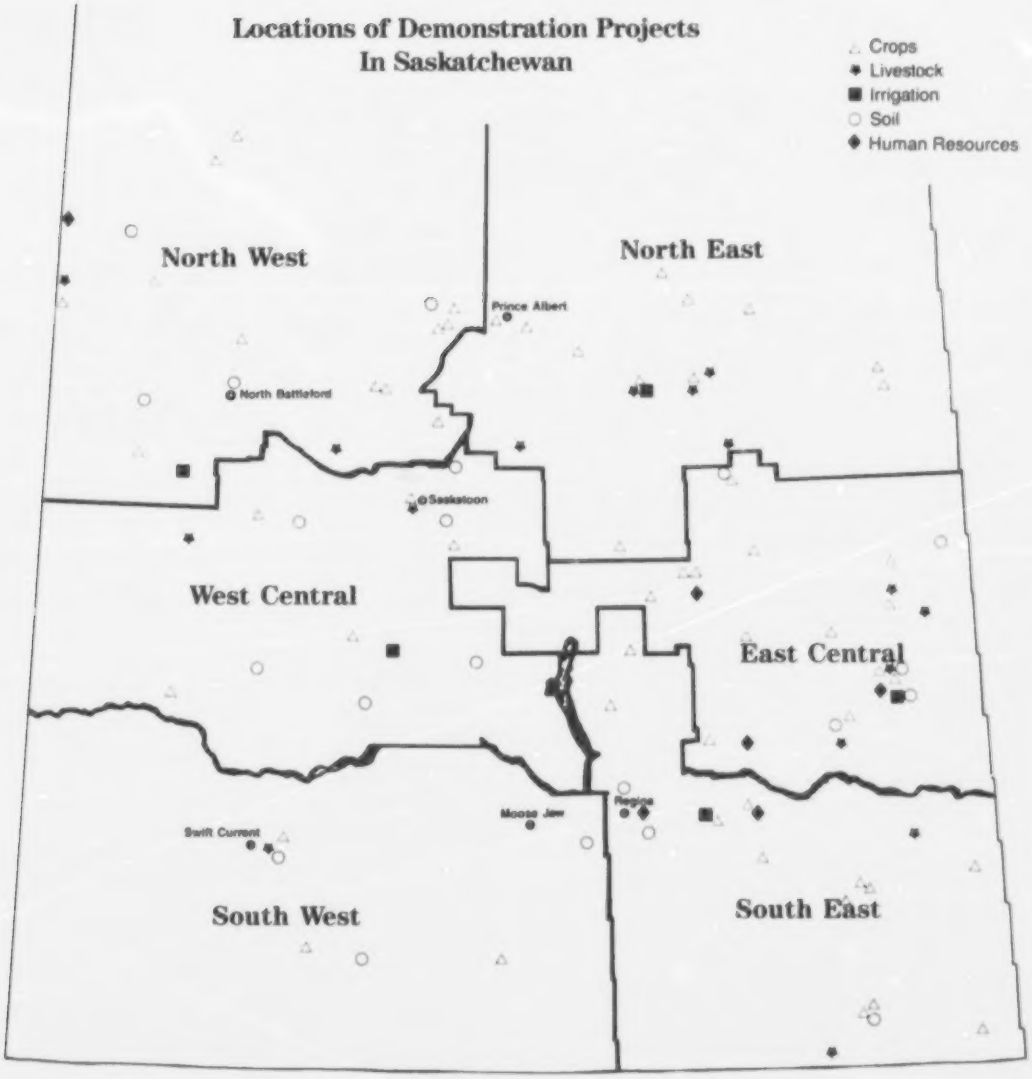
Demonstrations

The on-farm demonstration project portion of the ADF is designed to bring research to the farm.

In this way farmers get hands-on experience with new varieties, new practices and new technology. At the same time, practical demonstrations allow researchers to evaluate results obtained in actual situations.

During 1986-87, the ADF funded a total of 109 projects.

A detailed list of these projects appears in the Demonstration Project Summaries section of this report.



Other Funding Sources

Cattle Marketing Deductions Fund

The Cattle Marketing Deductions Fund, administered through the livestock branch of Saskatchewan Agriculture, promotes beef and beef products in the province.

Funds are accumulated through a 50-cent check-off or levy for each animal offered for sale in Saskatchewan.

In 1986-87 the Cattle Marketing Voluntary Deductions Fund collected about $500,000. The cattle check-off is a voluntary deduction and producers may obtain a refund by providing proof of livestock sales.

Horned Cattle Fund

The Horned Cattle Fund, administered through the livestock branch of Saskatchewan Agriculture, promotes research and development in the livestock industry. Funds are collected by deducting $2.00 for each animal with horns that is offered for sale in the province.

In 1986-87 the Horned Cattle Fund collected about $200,000 .

The Fund also established a beef herd at Melfort for research into beef herd management and pasture and forage use. Expenses incurred by the research project are paid from the sale of finished cattle.

Agriculture Canada

Since 1984, Agriculture Canada has funded and administered 50 research and development projects through its commitment to the Subsidiary Agreement on Agriculture Development under the Canada-Saskatchewan Economic and Regional Development Agreement (ERDA).

In this agreement Agriculture Canada has focused mainly on crop development research; improving the productivity of our livestock industry; and developing and conserving Saskatchewan's soil and water resources.

Federal ERDA projects that were operating in 1986-87 have been included in the Agriculture Development Fund's Annual Progress Report to provide a complete summary of all ERDA research and development initiatives.

Funding for federal ERDA projects is provided by Agriculture Canada and administered through the Saskatchewan Region office of its Agriculture Development Branch. In 1986-87 expenditures for these federally-administered ERDA projects came to slightly over $5.5 million.

Research and Development Project Summaries

Title/Objective/Project Number	Project Manager/ Contractor/Institution	Funding Agency/ Project Length	Funding 1986-87
CROPS			
Spring Wheat Breeding • breeding programs in hard red winter wheat, medium quality spring wheat, durum wheat and soft white spring wheat R-85-05-3013	R.J. Baker G.R. Hughes D.R. Knott R.S. Bhatty F. Holm University of Saskatchewan	ADF multiple years	160,731
Spring Wheat Improvement • continue improvement of disease resistance, maturity, end-use quality and general agronomic performance of bread wheat, durum wheat, soft white spring wheat, and semi-hard utility wheat for Saskatchewan conditions R-86-05-0073	B.L. Harvey University of Saskatchewan	ADF one year	298,737
Future World Market Opportunities for Saskatchewan Wheat • a study to exploit future world market opportunities for Saskatchewan wheat	W. H. Furtan University of Saskatchewan	Sask Agriculture multiple years	30,000
Canadian/International Durum Wheat Economy • develop a bulletin for farmers on the Canadian and international durum wheat economy	G. Storey University of Saskatchewan	Sask Agriculture multiple years	4,200
Comparative Advantage of Wheat Production in Saskatchewan • comparison of costs and returns with producers in the U.S., Australia, E.E.C. and U.S.S.R. 9-85-39	W. H. Furtan University of Saskatchewan	SARF one year	14,000
Winter Wheat and Rye • development of winter cereals for Saskatchewan R-86-05-0077	B.L. Harvey University of Saskatchewan	ADF one year	310,713

NOTE: ADF – Agriculture Development Fund
ERDA(F) – Economic and Regional Development Agreement (Federal)
ERDA(P) – Economic and Regional Development Agreement (Provincial)
SARF – Saskatchewan Agricultural Research Fund
HCF – Horned Cattle Fund
CMDF – Cattle Marketing Deductions Fund

Title/Objective/Project Number	Project Manager/ Contractor/Institution	Funding Agency/ Project Length	Funding 1986-87
Winter Wheat Development • work on cold hardiness, physiology, breeding and agronomy R-85-05-3017	D.B. Fowler L.V. Gusta University of Saskatchewan	ADF multiple years	108,665
Winter Wheat Production Technology • detailed study of all aspects of winter wheat production that will lead to production recommendations suitable for Saskatchewan conditions 1.1-1	D.B. Fowler University of Saskatchewan	ERDA(F) five years	831,700
Winter Wheat Production in Saskatchewan • assess the current status of winter wheat as a production alternative to Saskatchewan grain producers	B. Isman Western Canadian Wheat Growers Association	Sask Agriculture multiple years	20,000
The Effect of Growth Regulators on Winter Survival, Lodging and Yield of Norstar Winter Wheat and Musketeer Fall Rye • determine effect of growth regulators on lodging resistance of winter cereals, on yield and on winter survival 1-85-66	L.V. Gusta H.M. Austenson University of Saskatchewan	SARF one year	15,000
Durum Wheat Production in Saskatchewan • identify industrial or manufacturing market opportunities for durum wheat or its by-products	B. Isman Western Canadian Wheat Growers Association	Sask Agriculture multiple years	20,000
Breeding for Resistance to Leaf Rust in Durum Wheat • obtain information about the inheritance of leaf rust resistance in durum wheat, identify new sources of resistance and produce good combinations of resistance for use in durum breeding programs R-86-05-0172	D.R. Knott University of Saskatchewan	ADF three years	10,000
Selection and Evaluation of Improved High Yielding Spring Wheat With Soft White and Triple M Qualities • support for breeding work 1.1-11	L. Song Saskatchewan Wheat Pool	ERDA(P) three years	64,000
Semi-Dwarf Wheat • develop appropriate crop production practices for growing semi-dwarf wheat under Saskatchewan conditions 1.1-3	J. Clarke Agriculture Canada Research Station Swift Current	ERDA(F) four years	322,600
High Yielding Semi-Dwarf Wheat Production in Saskatchewan • economic analysis on the institutional constraints to the expansion of high yielding semi-dwarf wheat production in Saskatchewan	R.M.A. Loyns Prairie Horizons Ltd Winnipeg	Sask Agriculture one year	15,000

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Title/Objective/Project Number	Project Manager/ Contractor/Institution	Funding Agency/ Project Length	Funding 1986-87
Saskatchewan Pasta Plant Market Study • determine the market development potential and viability of an expandable dry pasta processing plant in Saskatchewan 1.4-18	H. Thorne F.L. International Trading Company Ltd Montreal	ERDA(F) two years	18,800
Barley and Oat Genetics, Breeding and Productive Research for Saskatchewan • develop agronomically superior, more marketable cultivars and improved production practices for the various barley and oat production areas of Saskatchewan R-86-05-0076	B.L. Harvey University of Saskatchewan	ADF one year	224,524
Barley and Oat Breeding • produce improved two and six row barley varieties for feed, and malting and oat varieties with thin hulls, plump seeds, high test weight, high yields and adaptation to non-rust areas R-85-05-3014	B.G. Rossnagel B.L. Harvey R.S. Bhatty F. Holm University of Saskatchewan	ADF multiple years	128,471
Maximizing Barley Production Under High Input Conditions via Semi-Dwarf Dwarf Varieties • evaluation of production potential of a new semi-dwarf, strong-strawed barley variety in terms of moisture requirements under irrigation and natural conditions, optimum seed rate for production, and evaluation of straw strength under irrigated conditions for a breeding program R-86-05-0027	B.G. Rossnagel University of Saskatchewan	ADF four years	34,865
Reasons for Vigor and Performance Differences Between Pedigree Seed Lots and Seed Lot Vigor Testing Procedures • identify non-genetic factors affecting seedling vigor and final crop performance differences between different seed lots of barley and wheat to determine why differences occur, make recommendations and evaluate seed lot vigor testing procedures R-86-05-0184	B.G. Rossnagel Saskatchewan Seed Growers Association	ADF two years	10,000
Wild Oat Processing • improve processing efficiency and product quality of wild oats which are processed for the health food and livestock feed markets 1.4-7	C. Werner Can Mar Grains Inc	ERDA(P) one year	64,500

Title/Objective/Project Number	Project Manager/ Contractor/Institution	Funding Agency/ Project Length	Funding 1986-87
Prairie Malt Technical Brochure • produce a technical booklet that will will enhance Prairie Malt's marketing program 1.4-10	A. Presber Prairie Malt Ltd Biggar	ERDA(F) one year	13,500
Prairie Malt Translation • translate the market development brochure into Japanese, Chinese and Spanish to increase market penetration 1.4-15	A. Presber Prairie Malt Ltd Biggar	ERDA(F) one year	5,500
Food and Beverage Industry Directory • design and establish a computer database for an updated Saskatchewan food and beverage industry directory 1.4-16	C. Bock Canadian Institute of Food Science and Technology (Saskatchewan Section)	ERDA(F) one year	5,500
Canola Potential in Saskatchewan • demonstrate current and new technology to increase average yields by 25 percent in 1989 1.3-1	E. Bendig Saskatchewan Canola Growers Association	ERDA(P) one year	153,308
Canola Hybrid Breeding • develop new higher-yielding canola hybrids suited to production in Saskatchewan and demonstrate benefits of sulphur fertilization on sulphur deficient soils 1.1-2	K. Downey Agriculture Canada Research Station Saskatoon	ERDA(F) four years	189,600
Natural Herbicides and Growth Inhibitors in Canola and Sweet Clover • examine whether canola and sweet clover can be used in crop rotations to control weeds 1.3-4	E. Coxworth Saskatchewan Research Council	ERDA(P) two years	16,500
Nutritional Evaluation of Low Mucilage Canola Meal • determine the effects of reduced mucilage content of canola meal on chemical and nutritional content of the meal, the digestibility of energy and protein, the growth and utilization of the meal on hogs and the relative economic value of the meal 2-85-04	J.M. Bell M.O. Keith University of Saskatchewan	SARF one year	20,000
Enzymatic Interestification of Canola Oil • develop an enzyme process to interesterify canola oil with a fully hydrogenated oil from palm, sunflower or canola stearine 1.4-85	A.R. McCurdy University of Saskatchewan	ERDA(P) two years	13,000

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Title/Objective/Project Number	Project Manager/ Contractor/Institution	Funding Agency/ Project Length	Funding 1986-87
Chlorophyll in Canola • review current scientific literature to obtain information on chlorophyll in canola, its removal by processing and agronomic influences 1.4-14	W. Cooper Saskatchewan Canola Growers Association	ERDA(F) one year	4,000
Evaluate Canola Oil Against White Mineral Oil (Dust Suppressant) • assess the feasibility of using canola dust oil for the suppression of grain dust in elevators R-86-05-0119	E. Bendig Saskatchewan Canola Growers Association	ADF one year	4,000
Canola Marketing Review • prepare, publish and distribute a review of marketing canola and canola products 5.1-4	W. Cooper Saskatchewan Canola Growers Association	ERDA(P) one year	10,000
Canola Oil Sales to the United States • undertake a market development program with potential canola oil customers in the United States 1.4-6	M. Pickard CSP Foods Ltd Saskatoon	ERDA(F) two years	27,300
Investigations of Export Opportunities for Canola in India • conduct an investigation of export opportunities for canola and canola products in India	D. Maxwell Saskatchewan Canola Growers Association	Sask Agriculture one year	1,144
Flax and Special Crops • develop high yielding and high quality cultivars of flax, fababeans, peas, lentils and other special crops R-85-05-3015	A.E. Slinkard G.G. Rowland R.S. Bhatty F. Holm University of Saskatchewan	ADF multiple years	173,184
Special Crops • develop new special crops for Saskatchewan by developing new varieties and improved management practices R-86-05-0071	B.L. Harvey University of Saskatchewan	ADF one year	337,054
Pulse and Specialty Crops • research and analyze the costs and returns for lentils, peas and mustard seed	C. Hale Pulse Growers Association	Sask Agriculture one year	3,000
A Re-evaluation of Seed Treatments for Pulse Crops • reassess the value of fungicidal seed treatment and assess new compounds 2-85-32	R. Morrall University of Saskatchewan	SARF one year	6,500
MCPA Tolerant Lentils • develop a lentil variety resistant to MCPA herbicide 1.2-5	A.E. Slinkard Saskatchewan Pulse Crop Development Board	ERDA(P) three years	5,000

Title/Objective/Project Number	Project Manager/ Contractor/Institution	Funding Agency/ Project Length	Funding 1986-87
Safe Level of Ascochyta for Lentil Seed • determine if practical tolerances for Ascochyta in lentil seed can be established for Western Canada 1.2-7	R. Morrall Saskatchewan Pulse Crop Development Board	ERDA(P) two years	3,000
Factors Affecting Cooking Quality of Saskatchewan Grown Lentil • identify factors responsible for wide variations observed in the cooking quality of lentil grown in Saskatchewan R-86-05-0156	R.S. Bhatty University of Saskatchewan	ADF two years	10,000
Cooking Quality of Lentils • examine the cooking quality of lentil varieties 1.3-6	R.S. Bhatty Saskatchewan Pulse Crop Development Board	ERDA(P) three years	7,300
Lentil Inoculation Study • improve lentil nitrogen fixation and yield potential by selecting strains better suited to Saskatchewan conditions 1.3-7	E. Bremner University of Saskatchewan	ERDA(P) two years	2,500
Literature Search and Review on Pea Protein Utilization • conduct a literature search and collate information improving the utilization of pea proteins R-86-08-0037	G.A. Wells Agdevco	ADF one year	15,000
Phosphorus Placement and Row Spacing in Field Peas • examine how field pea yields are affected by different placement/spacing combinations on various soil types 1.3-9	T. Wright Saskatchewan Pulse Crop Development Board	ERDA(P) three years	4,500
Development of a Bleaching Resistant, Green Cotyledon Dry Pea • develop such a pea cultivar adapted to Saskatchewan 2-85-53	A.E. Slinkard R. Morrall S. Alikhan University of Saskatchewan	SARF one year	14,000
Herbicide Stress on Symbiosis in Peas and Lentils • develop herbicide-tolerant rhizobium strains for field pea and lentil that are effective nitrogen fixers under herbicide stress and assess the occurrence of mycorrhizal symbiosis 3.1-8	J.J. Germida Saskatchewan Pulse Crop Development Board	ERDA(P) two years	2,500

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Market Feasibility Study of a Plant for the Manufacture of Prepared Mustard Products in Saskatchewan • establish the feasibility of manufacturing and marketing a line of prepared mustard products for sale in Canada and in export markets V-86-09-0097	J.P. Melin Delisle Food Processors Inc.	ADF two years	15,000
A Flax Bulletin for Western Canada • publish a "Growing Flax in Canada" bulletin useful to the flax grower V-86-05-0053	G. Hanley Flax Growers Western Canada	ADF two years	8,000
Wild Rice Research in Saskatchewan • conduct a comprehensive research program in the areas of production, pest management, engineering, processing, and marketing to meet the technical needs of the rapidly developing Saskatchewan wild rice industry R-86-08-0016	O.W. Archibold B.L. Harvey University of Saskatchewan Saskatchewan Wild Rice Council Inc.	ADF three years	216,000
Wild Rice Research • determine more efficient design for wild rice research	R.L. Kushwaha University of Saskatchewan	Sask Agriculture one year	6,000
Wild Rice Council: Food Pacific 86 • provide assistance to the Wild Rice Council to attend Food Pacific 86 in Vancouver 1.4-11	J. Hemstad Saskatchewan Wild Rice Council Inc La Ronge	ERDA(F) one year	6,300
Saskatchewan Field Crops Handbook • complete the initial steps in the development of a comprehensive field manual of plant nutrient deficiencies, insect damage, and disease symptoms for the major field crops grown in Saskatchewan V-86-05-0030	W.K. Head Head Consulting	ADF one year	6,000
Genetics • work on cytogenetics, population genetics and crop improvement using plant tissue culture for genetic manipulations R-85-05-3016	A. McHughen S. Jana G. Scoles University of Saskatchewan	ADF multiple years	104,701
Crop Biotechnology and Genetics • understand the genetic systems of crop plants so that beneficial genetic changes can become practicable R-86-05-0075	B.L. Harvey University of Saskatchewan	ADF one year	168,117

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Screening of Durum Wheat and Wild Emmer Wheat Germplasm for Drought Tolerance • evaluate germplasm lines of durum wheat and its immediate progenitor, wild emmer wheat 1-85-49	S. Jana University of Saskatchewan	SARF one year	16,000
Studies on Resistance in Wheat to *Septoria nodorum* Blotch and Tan Spot • to provide the basis for developing wheat varieties resistant to *Septoria nodorum* blotch and tan spot caused by *Pyrenophora triticirepentis* R-86-05-0171	G.R. Hughes University of Saskatchewan	ADF three years	40,000
Evaluation of Sources of Resistance to Speckled Leaf Blotch of Wheat • identify sources of resistance to *Septoria tritici*, determine the genetic inheritance of resistance and incorporate resistance into adapted spring and winter wheat cultivars 1-85-48	G.R. Hughes University of Saskatchewan	SARF one year	14,000
Physiology of Salt Tolerance in Crop Plants • investigate the processes of salinity tolerence in crops for use in selecting and breeding salinity-resistant cereal plants 1.1-6	B.L. Harvey University of Saskatchewan	ERDA(P) four years	75,000
Grasshopper Management: Crop Resistance • develop control strategies for grasshoppers by breeding natural resistance into crops 1.2-8	C. Hinks Agriculture Canada Research Station Saskatoon	ERDA(F) three years	37,900
Weed Survey of Cereal and Oilseed Crops in Saskatchewan • determine if the distribution and abundance of weeds has changed since the previous annual surveys from 1976-1979 R-86-05-0116	A.G. Thomas District Board #6 Indian Head	ADF one year	16,000
Weed Control • develop weed control methods for cereal and special crops, and develop and evaluate herbicide delivery technology R-85-05-3019	B. Drew R. Ashford F. Holm University of Saskatchewan	ADF multiple years	103,571
Weed Control Research • determine which herbicides and herbicide treatments can be successfully used for control of broad leaved and grass weeds in special crops; investigate specific weed control problems and study application technology R-86-05-0074	B.L. Harvey University of Saskatchewan	ADF one year	123,360

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Integrated Management of Sclerontinia and Blackleg Canola - East Central Saskatchewan • economically return canola yields in East Central Saskatchewan to consistently high levels through improved disease management R-86-05-0003	R. Morrall University of Saskatchewan	ADF three years	29,900
Control of Scentless Chamomile • develop ways of using cultural, biological and chemical means to control scentless chamomile 1.2-2	G. Bowes Agriculture Canada Research Station Regina	ERDA(F) four years	50,600
Biological Control of Weeds • evaluate exotic insect species as control agent for persistent perennial weeds	D. Greathead Commonwealth Institute of Biological Control (CIBC) United Kingdom	Sask Agriculture one year	6,000
Alternate Glyphosate • determine the feasibility of producing a product in Saskatchewan identical to "Roundup" 1.2-6	W. and H. Yung Yung Brothers	ERDA(P) two years	20,000
Bioinsecticides • develop biological methods for the control of grasshoppers R-85-02-3036	G.G. Khachatourians University of Saskatchewan	ADF multiple years	90,622
Development of Microbiological Insect Control Systems • identify and develop micro-organisms as effective biological control agents against insect pests, focusing on grasshopper control systems R-86-08-0069	G.G. Khachatourians University of Saskatchewan	ADF one year	160,000
Biohazard Assessment of a Biological Control Agent for Grasshoppers: *Nosema locustae* • assess the biohazard of *Nosema locustae* to mammals, other non-target vertebrates and invertebrates, and use the data to have a registration of *Nosema locustae* approved as a biological grasshopper control agent R-86-08-0018	H. B. Schiefer University of Saskatchewan	ADF three years	113,757
Grasshopper Pesticides for Use On Lentils • collect pesticide residue data to support Minor Use registrations for malathion, carbofuran, chlorpyrifos and deltamethrin R-86-05-0131	A.E. Slinkard Saskatchewan Pulse Crop Development Board	ADF two years	1,500

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Biology and Biological Control Potential of a Wheat Midge Parasite, *Pirene penetrans*, in Saskatchewan • evaluate the potential of *Pirene penetrans* as a biological control agent of wheat midge in Saskatchewan R-86-05-0113	J.F. Doane Agriculture Canada Saskatoon	ADF two years	16,914
Biology and Control of the Wheat Blossom Midge in Saskatchewan • determine ground beetle species predators of wheat midge, their seasonal distribution and harmful effects of insecticides 1-85-07	J.F. Doane R.H. Elliot Agriculture Canada Research Station Saskatoon	SARF one year	10,000
Responses of Diamondback Moths, *Plutella xylostella* (L.) and Other Insect Pests to Volatile Compounds of Cruciferous Crops • provide information to plant breeders and genetic engineers which is useful in the development of varieties of cruciferous crops resistant to insect attack and to develop novel methods for insect pest population and control R-86-05-0129	C. Gillott University of Regina	ADF three years	25,000
The Lesser Clover Leaf Weevil *Hypera nigrirostris:* Ecology and Control in Red Clover Seed Crops • define the seasonal history of the weevil on red clover; the economic threshold population, damage potential monitoring techniques; and cultural, biological and insecticidal control measures 3-85-20	C.H. Craig Agriculture Canada Research Station Saskatoon	SARF one year	15,000
Control of Sunflower Insects • develop technology for controlling insects in sunflowers 1.2-3	A. Arthur Agriculture Canada Research Station Saskatoon	ERDA(F) four years	36,800
Algae Control in Farm Ponds • increase the understanding of interactions between environmental factors, management practices and nuisance algal blooms in Saskatchewan farm ponds R-86-12-0163	S.M. Swanson Saskatchewan Research Council	ADF one year	21,000
Forage Crop Research • provide incentives to forage associations or district boards for forage research and demonstration projects 1.3-2	D. Gayton Saskatchewan Agriculture	ERDA(P) four years	6,926

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Forage Demonstration • carry out trials and demonstrations with corn, fodder beets and turnip rape V-86-05-0048	H.J. Petersen Agrar Consulting (GMBH)	ADF one year	67,179
Development of Sound Agronomic Practices for Alfalfa Seed Production • develop, evaluate and promote sound integrated agronomic management techniques which will help to maximize alfalfa seed yields and pedigreed seed quality V-86-05-0017	N. Malek Saskatchewan Alfalfa Seed Producers Association	ADF four years	30,000
Development Towards More Efficient Operation of a Alfalfa Dehy Processing System • increase the efficiency by which dehydrated alfalfa products are processed thereby reducing the cost of production V-86-07-0028	D. Pulkinen Saskatchewan Dehydrators Association	ADF two years	15,087
Alfalfa Pellet Durability and Pelleting Efficiency Study • increase the marketability and profitability of dehydrated alfalfa by increasing handling durability and reducing processing costs V-86-07-0029	D. Pulkinen Saskatchewan Dehydrators Association	ADF two years	12,419
Dehydrated Alfalfa Brochure • produce a general brochure that can be used to market dehydrated alfalfa cubes and pellets 1.4-2	D. Pulkinen Canadian Dehydrators Association	ERDA(F) two years	3,600
Bloat-Safe Alfalfa Study • develop a variety of alfalfa that does not cause animals to bloat 1.1-4	R. Howarth Agriculture Canada Research Station Saskatoon	ERDA(F) four years	49,800
Melfort Forage Handling Study • improve beef nutrition by developing better systems for harvesting, preserving and using forage 2.2-1	S. Beacom Agriculture Canada Research Station, Melfort	ERDA(F) four years	141,000
Forage Seed Shipment • provide assistance for a first shipment of forage seed to China, with the objective opening a new market for Saskatchewan producers 1.4-17	F. Rempel Newfield Seeds Ltd Nipawin	ERDA(F) one year	2,000

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Improving the Agronomics and Feed Value of Kochia • investigate different varieties of kochia and growing conditions related to feed value 2.2-10	E. Coxworth Saskatchewan Research Council	ERDA(P) three years	81,613
Field Testing of a New Strain of Leaf-cutting Bees • determine if the selected trait of no field emergence of bees during the growing season is stably inherited in different areas and evaluate other desirable biological traits V-86-08-0004	G.H. Rank Saskatchewan Alfalfa Seed Producers Association	ADF two years	14,000
Control of Chalkbrood and Other Fungal Problems in Leaf-cutter Bees • study control methods that will increase the survival of leaf-cutter bees 2.3-4	R. Herperger Saskatchewan Alfalfa Seed Producers Association	ERDA(P) two years	30,000
Acarine Mite and Honeybee Overwintering • test whether the Acarine mite that has affected honeybees in the USA overwinters in Saskatchewan 1.1-7	J. Gruszka D. Peer Saskatchewan Beekeepers Association	ERDA(P) four years	8,000
Tracheal Mite • determine the effect of tracheal mite infestation on overwintered honeybee colonies 2.4-18	D. Peer Saskatchewan Beekeepers Association	ERDA(P) two years	24,850
New Pasture and Grazing Technologies • conduct forage trials to demonstrate the effectiveness of new grassland management techniques 2.5-2	W. Pyle Saskatchewan Agriculture	ERDA(P) three years	2,107
Grain and Forage Utilization • determine optimum levels of nitrogen fertilization for renovating old grass pastures and their effects on animal performance, evaluate the response of sweet clover and barley to nitrogen fertilizer, evaluate these silages for overwintering cow herds and evaluation of ammoniated corn and barley silage R-85-01-3022	D.A. Christensen R. Cohen H.H. Nicholson University of Saskatchewan	ADF multiple years	67,500
Renovation of Pastures by Direct Seeding • find an effective method of introducing introducing alfalfa into native rangeland, and compare seed drills and renovation methods based on direct seeding of cultivated forage crops 3-85-12	J. Waddington N. Holt T. Lawrence Agriculture Canada Research Station Swift Current	SARF one year	15,000

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Intensive Pasture Management for Beef Production • measure the effects of fertilizer n the growth and production of beef cattle, and measure the effects of plant growth regulators on the growth, maturation and nutritive value of forage R-86-01-0065	D.A. Christensen University of Saskatchewan	ADF one year	66,000
Swift Current Grazing Study • minimize feed costs by using adapted varieties and improved grazing management of pastures 2.2-2	N. Holt Agriculture Canada Research Station Swift Current	ERDA(F) four years	175,000
Horticulture Development • develop varieties suitable for Saskatchewan conditions and enhance horticulture production 1.1-8	C. Stushnoff University of Saskatchewan	ERDA(P) four years	250,165
Northern Horticulture Research • evaluate various horticulture crops and cropping practices for application to Northern Saskatchewan	C. Stushnoff University of Saskatchewan	Sask Agriculture multiple years	16,000
Vegetable Varietal Trial • determine vegetable varieties best suited in terms of yield and quality for commercial production in Saskatchewan 4-85-25	C.O. Green Prairie Produce Ltd Outlook	SARF one year	4,750
Potato Variety Trials • evaluate potato lines selected for Western Canadian growing conditions	C. Stushnoff University of Saskatchewan	Sask Agriculture multiple years	24,000
Potato Starch • conduct yield and quality trials of potato varieties grown for starch 1.1-9	C. Stushnoff Saskatchewan Vegetable Marketing Commission	ERDA(P) two years	3,415
Market Potential and Export Viability for Saskatchewan-Grown Seed Potatoes to the Pacific North West Region of the United States • identify seed potato market potential in the Pacific Northwest United States R-86-08-0178	S. Garven Harvest Foods Ltd and Saskatchewan Vegetable Growers Association	ADF one year	15,000
Market Study of Jerusalem Artichokes • study the produce market for Jerusalem artichokes to determine which areas are the most accessible and profitable V-86-09-0085	J. Beckton Beckton Agricultural Finance and Management Consulting Services	ADF two years	6,000

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Underground Garden • examine the feasibility of using underground space in a potash mine for growing various plant species 1.1-12	B. Taylor Potash Corporation of Saskatchewan	ERDA(P) one year	50,000
Saskatchewan Nursery Trades Enhancement Program • provide support to build and strengthen the provincial horticulture association by establishing a central clearing house for the industry and provide a vehicle for the development of education program D-86-04-0004	D. Land Saskatchewan Nursery Trades Association	ADF two years	20,000
Native Berry Picking and Marketing • promote Northern Saskatchewan berry production and market development 1.4-9	J. Hemstad SIAP Marketing Company Inc Prince Albert	ERDA(P) three years	30,000
Nature Berry Market Development • establish contacts with wholesalers, retailers and restauranteurs to develop markets for specialty berry products produced in Northern Saskatchewan 1.4-12	E. and E. Keller Nature Berry Inc La Ronge	ERDA(F) one year	7,500
Nature Berry-Blueberry Mint Jam/ Cranberry Sauce • develop and refine process and recipe for gourmet products from native berries V-86-08-0066	E. and E. Keller Nature Berry Inc	ADF one year	10,000
Rooting of *Amelanchier alnifolia* Produced *in vitro* and the Subsequent Establishment of Rooted Shoots Under Greenhouse or Field Conditions • propagation of Saskatoons 4-85-56	C. Stushnoff University of Saskatchewan	SARF one year	15,000
Food Fair 86 • support the second year of Agribition's Mini-Food Fair 1.4-13	V. Hedford Canadian Western Agribition Regina	ERDA(F) one year	3,000
Straw Particle Board Manufacturing • conduct necessary research and development and in-depth market research research in order to fully assess the potential of a viable commercial manufacturing operation in Saskatchewan for use of various types of agricultural waste materials in the production of a high-quality, lower-cost particle board V-86-08-0082	B. Russell Solutions Management Group Inc. Regina	ADF two years	40,000

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Grant to POS Pilot Plant • protein, oil and starch research and development V-86-12-0055	Director POS Pilot Plant Inc.	ADF multiple years	50,000
Fine Grinding and Air Classification of Clears from HRS Flour Milling into Wheat Protein Concentrate and Bakers Flour • develop procedures for fine grinding coarse flours into protein, starch and cell wall components and separating a high protein concentrate for use as a gluten substitute R-86-07-0026	F.W. Sosulski University of Saskatchewan	ADF three years	34,440
Development of Techniques and Strategies of Selection for Grain Yield, Protein Content, and Kernel Hardness in Wheat Using Near-Infrared Spectroscopy • develop and evaluate calibration constants for a near-infrared reflectance spectrophometer suitable for measuring protein content and kernel hardness in wheat and implement evaluation and selection strategies that increase efficiency in developing improved cultivars 1-85-22	T.N. McCaig Agriculture Canada Research Station Swift Current	SARF one year	18,000
SOILS			
Soil Salinity Research • investigate the causes of soil salinity by tracing groundwater movement 3.2-1	L. Henry University of Saskatchewan	ERDA(P) four years	300,000
Salinity Studies • reclamation projects at Wilkie, Goodale Farm, Langham and Francis, Saskatchewan R-85-10-3004	L. Henry University of Saskatchewan	ADF multiple years	140,000
Properties and Distribution of Saline Soil • develop a regional framework for saline investigations, develop a long-term monitoring network and improve methods for inventory of saline soils R-85-10-3005	J. Stewart University of Saskatchewan	ADF multiple years	18,480
Cropping Saline Soils • establish reclamation procedures and proceed with monitoring two sites during the summer R-85-10-3006	J. Peters University of Saskatchewan	ADF	12,719

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Dryland Soil Salinity Investigations • determine the cause of soil salinity in in Saskatchewan and determine the field indicators related to the various types of soil salinization ensuring transfer of information R-86-10-0078	L. Henry University of Saskatchewan	ADF one year	100,000
Mineralogy, Morphology and Dynamics of Salts in Agricultural Soils • identify minerals and their associates and investigate origins of salts to provide information for saline soil reclamation 7-85-60	A.R. Mermut R.J. St. Arnaud L. Henry University of Saskatchewan	SARF one year	17,000
Innovative Acres • demonstrate water-efficient farming systems, investigate soil management systems, soil building crops (legumes), and herbicide efficacy and provide economic and risk analysis for soil cropping and rotation practices R-86-10-0080	J. Stewart University of Saskatchewan	ADF one year	486,000
Innovative Farming Systems • maximize productivity and maintain high soil quality to water efficient farming practices R-85-10-3001	E.H. Halstead E. de Jong University of Saskatchewan	ADF multiple years	178,337
Water Management in Soil • work on water management in soil over the winter period and experiments on tillage practices, specifically deep ripping R-85-10-3007	D. Gray University of Saskatchewan	ADF one year	15,000
Snow Management and Meltwater Enhancement • study the benefits of snow management and meltwater infiltration 3.2-3	W. Nicholaichuk National Hydrology Research Institute (NHRI) Saskatoon	ERDA three years	100,000
Agricultural Use of Sludge from Regina Waste Water Treatment Plant • examine feasibility of utilization of sludge on agricultural land 7-85-37	T. Viraraghavan University of Regina	SARF one year	7,000
Soil Conservation and Management • reduce soil degradation problems by providing an on-farm soil conservation service and increasing public awareness of the need for soil conservation 3.1-1	G. Luciuk Agriculture Canada (PFRA) Regina	ERDA(F) five years	1,960,000

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Saskatchewan Conservation Tillage Association • facilitate the formation of a conservation tillage association for Saskatchewan farmers V-86-10-0077	J. Halford Vale Farms Ltd	ADF one year	9,500
Extended Crop Rotations and Conservation Tillage Project • demonstrate the profitability of extended rotations and the value of conservation tillage 3.1-6	B. Kennedy Hoechst Canada Ltd Regina	ERDA(P) three years	155,335
Conservation Farming • support a "Conservation Farming Practices" program conducted in District #6 3.1-7	L. Koturbash District Board #6 Indian Head	ERDA(P) three years	10,000
Soil Conservation, Tillage and Agronomy Related Research • develop soil conservation practices which will maximize returns to Saskatchewan producers R-86-05-0072	B.L. Harvey University of Saskatchewan	ADF one year	182,496
Tillage Practices • decrease the number of tillage operations required in a normal cropping sequence while maintaining yields R-85-05-3018	R.K. Foster H.M.. Austenson University of Saskatchewan	ADF multiple years	69,614
Critical Evaluation of Subsoiling Tillage (Deep Ripping) • study and evaluate subsoiling tillage practices in terms of effect on crop production, water use and soil structure R-86-10-0015	M.C.J. Grevers District Board #26 Tisdale	ADF two years	20,000
Long Term Effects of Cultivation • monitor changes in soil properties, particularly organic matter, nutrients and soil structure on newly broken land at Termuende Farm R-85-10-3002	J.R. Bettany D.W. Anderson University of Saskatchewan	ADF multiple years	45,130
Management of Organic Soils • investigate crop production on organic soils with particular emphasis soil fertility and tillage practices R-86-05-0180	W.K. Head Head Consulting	ADF three years	15,000
Soil Fertility - Sulphur and Micronutrients • determine soil and plant needs for sulphur and other micronutrients by developing an improved soil test for sulphur 3.1-4	D. Tomasiewicz University of Saskatchewan	ERDA(P) four years	112,000

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Nitrogen Studies • maximize productivity and maintain high soil quality R-85-10-3003	E. de Jong University of Saskatchewan	ADF multiple years	51,929
Nitrogen Fixation and Fertilization Efficiency • utilize annual grain legumes in a continuous system in Saskatchewan in order to conserve soils and improve quality V-86-10-0016	R.J. Rennie Esso Chemical Canada	ADF four years	50,000
Variable Rate Fertilizer • evaluate a system of soil testing, mapping and application of a variable rate of fertilizer depending upon the requirements 1.1-10	B. Bens Agro-Tech Systems Inc	ERDA(P) two year	20,000
Fertilizer Placement • conduct field trials to demonstrate the importance of effective fertilizer placement placement in extended crop rotations 3.1-5	J. Harapiuk Western Co-operative Fertilizers Ltd. Calgary	ERDA(P) two years	30,000
Determination of Trifluralin Herbicide Carryover Levels in Soils • examine whether inexpensive bioassay procedure for trifluralin herbicides determines total soil content of the chemical or whether more expensive analysis is necessary 7-85-59	R.B. McKercher University of Saskatchewan	SARF one year	20,000
Agronomy Study of Saskatchewan Soils • develop appropriate crop production practices that will increase cereal, oilseed and special crop yields 1.1-5	H. Steppuhn Agriculture Canada Research Station Swift Current	ERDA(F) four years	231,000
Soil Correlation and Mapping Research • develop improved methods of soil classification and interpretation, investigate the composition of clay soil and develop proposal for improved soil classification R-85-10-3010	D.F. Acton University of Saskatchewan	ADF multiple years	73,765
Soil Survey • complete a soil resource data base for for Saskatchewan which can be used to improve soil conservation efforts in the province 3.1-3	D.F. Acton University of Saskatchewan	ERDA(P) four years	300,000

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Soil Inventories for Saskatchewan • provide a more comprehensive and detailed detailed description of soil properties which are interpreted for various uses R-86-10-0079	J. Stewart University of Saskatchewan	ADF one year	560,000
Soil Inventory and Research in Southeastern Saskatchewan • inventory, research, mapping compilation and publications of data on wetlands, improvement of clay soil through deep tillage, soil salinity characteristics R-85-10-3008	H.B. Stonehouse L.M. Kozak University of Saskatchewan	ADF multiple years	21,910
Inventory and Research - Northern Soils • mapping and report compilation, editing and publications R-85-10-3009	J.G. Ellis D.W. Anderson University of Saskatchewan	ADF multiple years	23,225
Inventory and Assessment of Acidity and Erodability of West Central Soils • continue preparing soil inventories on the Battlefords NTS sheet and extend northward to Tsp 48 R-85-10-3012	H.P. W. Rostad W.D. Eilers A.J. Anderson H. deGooijer University of Saskatchewan	ADF multiple years	55,335
Soil Conservation Mapping • complete a soil resource data base for for Saskatchewan which can be used to improve soil conservation efforts in the province 3.1-2	D.F. Acton University of Saskatchewan	ERDA(F) five years	350,000
Evaluation of Agricultural Land and Interpretating Soil Maps for Producers • complete production of broad interpretative maps and computers R-85-10-3011	G.A. Padbury University of Saskatchewan	ADF multiple years	17,835
An Integrated Approach to the Assessment and Mapping of Soil Erosion Risk in Southern Saskatchewan • develop an integrated cost-effective method of assessing and mapping soil erosion risk and degree of soil loss R-86-10-0140	D. Sauchyn University of Regina	ADF two years	5,380
LIVESTOCK			
Trace Mineral Metabolism and Nutrition • determine the effects of high sulphate water and feed source on copper level on the performance of brood cows, and trace mineral content of cattle tissues R-85-01-3020	D.A. Christensen R. Gooneratne B. Laarveld M. Smart R. Cohen University of Saskatchewan	ADF multiple years	45,000

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Breed Related Copper (Cu) Deficiency in Cattle • determine factors affecting Cu metabolism in cattle prior to, during and post-pregnancy; determine variations in Cu metabolism across two breeds; determine the importance of bile as a route of Cu loss; and compare changes in biliary Cu excretion among two breeds using different control factors R-86-01-0063	D.A. Christensen University of Saskatchewan	ADF one year	70,000
Copper Metabolism During Pregnancy in Two Breeds of Cattle • study metabolism of copper with high and low copper requirements	S. Gooneratne University of Saskatchewan	HCF one year	10,000
Ammoniation of Uncovered Chaff • investigate the ammoniation of chaff without covering 2.2-7	J. Kernan Saskatchewan Research Council	ERDA(P) two years	2,000
Ammoniated Flax and Wheat Residues as Winter Feed for Beef Cows • determine if flax and wheat residues be ammoniated to form a maintenance ration 2.2-9	J. Kernan Flax Growers Association of Western Canada	ERDA(P) two years	30,000
Thermo-Ammoniation Systems for Livestock Feed • undertake a nutritional and economic analysis of livestock feeds produced using a thermo-ammoniation unit 2.2-11	B. Porter Westeel Agricultural Products Winnipeg	ERDA(P) one year	8,000
Utilization of Canola Chaff for Feed • investigate the feed value of canola chaff 2.2-8	J. Kernan Saskatchewan Research Council	ERDA(P) two year	3,715
Improve Canola Meal Feed Value and Simultaneously Produce Food-Grade Protein by Ultrafiltration Technology • identify efficient solvents for dispersing the protein and for solubilizing the various constituents which contribute to lower feed value in commercially available canola meal identify ultrafiltration process parameters and evaluate the market value of the process R-86-01-0152	S.M. McCurdy POS	ADF one year	12,000

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Roles of Insulin, Glucose and Free Fatty Acids in the Development of Ketosis and Fatty Liver Disease in Ruminants • investigate metabolic parameters responsible for development of ketosis and fatty liver disease; study of insulin, free fatty acids and glucose and determine balance of metabolites and hormones 5-85-62	R.K. Chaplin University of Saskatchewan	SARF one year	16,000
Near Infrared Analysis of Feedstuffs • calibrate a near infrared analyzer to Saskatchewan feedstuffs 2.2-6	V. Racz Saskatchewan Feed Testing Laboratory	ERDA(P) four years	48,000
Livestock Nutrition Technology Transfer • promote the use of the Saskatchewan Feed Testing Laboratory 2.2-3	V. Racz Saskatchewan Feed Testing Laboratory	ERDA(F) four years	84,500
Improved Bovine Reproduction • control and manipulate hormones involved in ova production to improve calving rates R-85-01-3029	T.D. Carruthers University of Saskatchewan	ADF multiple years	13,500
Anestrus Study • determine if the use of short-term steroid treatments can maintain the desired calving interval for beef cows 2.1-2	J. Manns University of Saskatchewan	ERDA(F) three years	34,500
Evaluate Practical Post-Partum Nutritional and Drug Management in Controlling Breeding of Beef Cows • evaluate the inter-relationship between post-partum nutritional levels in beef cows and the use of hormones and prostaglandins to regulate estrus 5-85-11	D. McCartney A. Robertson W. Cates R. Mapletoft Agriculture Canada Research Station Melfort and University of Saskatchewan	SARF one year	4,000
Reproductive Data Collection • develop a computer data collection system to monitor the reproductive status of each sector of the livestock industry 2.1-6	D. Sim Saskatchewan Agriculfure	ERDA(P) four years	926
Alleviating Reproductive Loss in Beef Cattle through Management • two experiments involving synchronization of heifers to achieve a 14-day breeding period and the effect of growth promotants and hormonal manipulation on reproductive performance in female beef cattle R-86-01-0064	D.A. Christensen University of Saskatchewan	ADF one year	40,000

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Hormone Assays for Reproductive Research in Cattle • supply a technician to provide hormone assays	N.C. Rawlings University of Saskatchewan	HCF one year	5,000
Scanning Electron Microscopy Evaluation • use scanning electron miscroscopy evaluation to study the effect of hormonal treatments on the uterus of cows during the estrus cycle 2.4-7	F. Bristol University of Saskatchewan	ERDA(P) three years	10,000
Ovascan Evaluation • evaluate the efficiency of an electronic heat detection device for use in Saskatchewan dairy herds 2.1-5	D.A. Christensen University of Saskatchewan	ERDA(F) one year	10,900
Electronics for Heat Detection • develop a pressure sensitive electronic device which could be implanted and used to record estrus events 2.1-12	J. Manns University of Saskatchewan	ERDA(F) two years	7,000
Pregnancy Checking Promotion • promote the value of pregnancy checking for improved productivity of cow-calf operations 2.1-8	R. Donald Saskatchewan Agriculture	ERDA(P) one year	8,741
Pregnancy Checking Promotion • promote the value of pregnancy testing for improved productivity of cow-calf operations 2.1-4	H. Cook Agriculture Canada (PFRA) Regina	ERDA(F) four years	20,000
Embryo Cryogenics • determine factors affecting survival of bovine embryos during freezing 2.1-7	R. Mapletoft University of Saskatchewan	ERDA(P) four years	75,000
Improvement of Production Efficiency of Livestock by Vaccination Against Somatostatin • investigation into growth systems in sheep, dairy and beef cattle 5-85-26	B. Laarveld University of Saskatchewan	SARF one year	26,000
Development of a Vaccination Technique Against Somatostatin to Improve Growth in Ruminants • develop the technique of vaccination against somatostatin to produce a consistent, sustained immune response in ruminants R-86-01-0062	D.A. Christensen University of Saskatchewan	ADF one year	50,000

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Somatostatin-Autoimmunization • improve somatostatin immunization methods with subsequent evaluation in lambs, swine, beef and dairy cattle 2.1-11	B. Laarveld University of Saskatchewan	ERDA(P) two years	20,000
Growth Hormone Studies • deal with adjuvants, long term carriers and identification of optimal dose on response relationship R-85-01-3025	B. Laarveld University of Saskatchewan	ADF multiple years	25,000
Somatomedin in Blood as a Selection Parameter for Growth in ROP Bulls • evaluate somatomedin as a selection parameter	B. Laarveld University of Saskatchewan	HCF one year	9,000
Shipping Fever Inoculation • test the effectiveness of a B.V.D. vaccine 2.4-5	F. Weeks Unity Veterinary Clinic	ERDA(P) one year	500
Shipping Fever Complex • conduct field tests to study the effectiveness of two new types of shipping fever vaccine 2.4-13	F. Weeks Unity Veterinary Clinic	ERDA(P) one year	2,000
Shipping Fever/Scours Vaccines • improve the effectiveness of vaccines for some types of shipping fever and calf scours 2.4.12	S. Acres Veterinary Infectious Diseases Organization (VIDO)	ERDA(F) three years	97,000
A Field Study of Prophylactic Treatment Regimes for the Prevention of Respiratory Disease in Feedlot Calves • determine the costs and benefits of mass treatment of cattle with injectable antibiotics or other drugs upon arrival in a commercial feedlot 2.4-17	E. Janzen University of Saskatchewan	ERDA(P) two years	8,000
Testing New Immunomodulators and Adjuvants • investigate infectious diseases in food producing animals 2.4-3	S. Acres Veterinary Infectious Diseases Organization (VIDO)	ERDA(P) four years	75,000
Testing a Vaccine for Viral Calf Scours • determine whether one booster vaccination is sufficient and determine best time to administer booster 5-85-29	S. Acres Veterinary Infectious Diseases Organization (VIDO)	SARF one year	14,000
Veterinary Infectious Diseases Organization • respiratory research in cattle	S. Acres Veterinary Infectious Diseases Organization (VIDO)	CMDF one year	50,000

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VIDO (Fellowship) • develop and apply improved serological and immunological methods of diagnosing and monitoring important infectious diseases of livestock and poultry V-86-01-0056	S. Acres Veterinary Infectious Diseases Organization (VIDO)	ADF four years	100,000
Grant to VIDO • study of infectious diseases V-86-01-0054	S. Acres Veterinary Infectious Diseases Organization (VIDO)	ADF multiple years	300,000
Virological Investigations into Outbreaks of Atypical Diarrhea in Calves and Piglets • investigate diarrhea outbreaks in calves and piglets to determine the responsible virus 2.4-16	P. Durham University of Saskatchewan	ERDA(P) one year	10,000
Pharmacokinetic Studies of Cefazolin in Horses and Cattle • determine feasibility of slowing the absorption of cefazolin after intramuscular injection for the purpose of sustaining efficacious blood concentrations in large animals R-86-01-0058	M.G. Papich University of Saskatchewan	ADF two years	15,000
Development of Subunit Vaccines for Control of Herpesvirus-1 Induced Respiratory Disease • test immunogenicity and protective capacity of purified infectious bovine rhinotracheitis and develop an ELISA assay 5-85-09	S. van den Hurk Veterinary Infectious Diseases Organization (VIDO)	SARF one year	15,000
Overwintering Survival of Anaplasmosis • determine if ticks act as an overwinter host for anaplasmosis 2.4-9	J. Saunders University of Saskatchewan	ERDA(F) three years	32,000
Dairy Research • nutrition and herd management	D.A. Christensen University of Saskatchewan	CMDF one year	50,000
Dairy Production and Feed Evaluation • develop improved dairy cattle feeding rations 2.2-13	D.A. Christensen University of Saskatchewan	ERDA(P) four years	35,000
Evaluation of Protein Status of Lactating Dairy Cows • evaluate a method for determining the adequacy of dietary protein in high-producing dairy cow diets in early lactation through milk urea content 5-85-41	D.A. Christensen V. Racz University of Saskatchewan	SARF one year	17,000

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Dairy Management, Housing and Physical Characteristics of Dairy Cattle • improve the management and efficiency of dairy herds through computerized record keeping 2.3-5	D.A. Christensen University of Saskatchewan	ERDA(P) four years	40,000
Dairy Study • set up and coordinate the collection and analysis of information on the cost of production for fluid milk using actual farm data	S.H. Barber Milk Control Board	Sask Agriculture one year	30,000
Evaluating Hoof and Limb Conformation (ROP) • determine how hoof and limb conformation affects cattle performance 2.4-11	P. Greenough University of Saskatchewan	ERDA(P) one year	18,000
Determination of Hoof and Leg Conformation in Bulls • study hoof and leg conformation in bulls	P. Greenough University of Saskatchewan	HCF one year	12,500
Bull Weight "Let Down" • document the relationship between changes in body weight and the fertility of two-year old beef bulls 2.1-1	W. Cates University of Saskatchewan	ERDA(F) three years	11,400
Beef Upgrading Management Program • produce a beef management manual for use in a pilot project that will demonstrate the value of good management systems 2.4-10	P. Rempel Saskatchewan Agriculture	ERDA(P) two years	1,194
Productivity and Reproductive Performance of Herds in Northeast Saskatchewan • a herd health program in R.M. #394 2.4-4	L. Purves RM of Hudson Bay #394	ERDA(P) three years	20,875
Bull Performance Test Centre • upgrade and expand facility and provide operating funds to enhance its genetic improvement efforts 2.2-4 2.2-5	L. Bezan Saskatchewan Beef Cattle Performance Association	ERDA(F) four years	102,000
Feeder Cattle Performance Testing • demonstrate the importance of the feedlot industry, highlighting performance and market development 2.1-10	K. MacDonald Saskatchewan Feeder Cattle Association	ERDA(P) two years	60,000
Saskatchewan Certified Preconditioned Feed Program (SCPF) • increase number calves under SCPF	P. Greenough Saskatchewan Veterinary Medical Association	Sask Agriculture multiple years	22,975

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Preconditioned Feeder Program II • provide support for a second year of the preconditioned feeder program 2.6-2	P. Greenough Saskatchewan Veterinary Medical Association	ERDA(P) two years	16,000
Lands Branch Black Fly Control Program • demonstrate methods of black fly control to producers and community pasture patrons 2.3-7	G. O'Bertos Saskatchewan Agriculture	ERDA(P) two years	8,960
BTH Treatments for Black Fly Control • consultation regarding implementation of a black fly control (larviciding) program using BTH 14	M. Galloway University of Manitoba	Sask Agriculture one year	42,500
Consultation on Black Fly Projects • ongoing consultancy on black fly control program development	M. Galloway University of Manitoba	Sask Agriculture multiple years	32,349
Blackfly '86 • develop black fly control methods for use along the Saskatchewan River 2.3-6	D. Lehmkuhl Biosystems Consulting Ltd Saskatoon	ERDA(P) one year	60,000
Black Fly Control • develop and test new or improved methods of controlling black flies 2.3-2	C. Mulligan Saskatchewan Agriculture	ERDA(P) two years	10,563
Insecticide the Treatment Station • study the effectiveness of forced use treatment station as a practical approach to controlling biting flies in beef herds 2.3-3	C. Mulligan Saskatchewan Agriculture	ERDA(P) two years	5,767
Pesticide Applicator Course • provide training in pesticide application for black fly control (adulticiding) at the municipal level	M. Galloway University of Manitoba and Cumberland Community College	Sask Agriculture one year	825
An Evaluation of Alternative Energy Sources for Swine • evaluate the nutritional potential of alternative energy sources for use in swine rations and of development methods to improve their feeding value R-86-01-0066	D.A. Christensen University of Saskatchewan	ADF one year	80,000
Availability of Biotin for Sows • see if higher levels of supplemental biotin during the growth period would improve growth and development of foot epidermis R-85-01-3021	R. Misir University of Saskatchewan	ADF multiple years	30,750

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Weanling Feed Formulas and Physical Properties of the Diet (Swine) • examine factors which can improve the feed intake of newly born pigs and evaluate oat groats and compare pigs weaned into litter groups or into weight groups R-85-01-3024	G.I. Christison N. Lewis University of Saskatchewan	ADF multiple years	23,500
The Effects of Treatment of Rye on Nutritive Value for Pigs • study the effects of pentosan digesting enzymes on the digestibility of rye in pig rations R-85-01-3026	P.A. Thacker University of Saskatchewan	ADF multiple years	10,000
Investigating Chloride Conductance Inhibitors as Treatments for Neonatal and Weanling Diarrhea in Pigs • study the effects, activation and extent of inhibition of chloride conductance E-86-01-0007	G.W. Forsyth University of Saskatchewan	ADF three years	42,050
Productivity of Sows • investigate the possible role of Leutinizing Hormone-Releasing Hormone in improved conception rates and litter size R-85-01-3028	P.A. Thacker University of Saskatchewan	ADF multiple years	15,000
Management of Weanling Pigs to Minimize Environmental and Social Stress • examine changes in the management of pigs at weaning and improve pen design R-86-01-0068	D.A. Christensen University of Saskatchewan	ADF one year	70,000
Evaluation of Farrowing Systems • evaluate currently available crates and floors for farrowing sows and evaluate novel farrowing systems R-86-01-0148	G.I. Christison University of Saskatchewan	ADF three years	50,000
Management Studies to Increase Sow Fertility • develop new, economically viable ways to improve the reproductive ability of commercial swine operations on the prairies 2.1-3	P.A. Thacker University of Saskatchewan	ERDA(F) four years	58,000
Improvement of Sow Fertility • develop management systems to improve improve the reproductive fertility of sows and gilts R-86-01-0067	D.A. Christensen University of Saskatchewan	ADF one year	90,000
Reproduction Performance of Sows • determine if the fertility of frozen semen can be improved by an addition of relaxin hormone R-85-01-3027	P.A. Thacker University of Saskatchewan	ADF multiple years	27,500

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Swine Health Management • investigate a number of areas of health monitoring and disease control R-85-01-3030	C. Rhodes University of Saskatchewan	ADF multiple years	13,000
Swine Herd Technology Transfer • establish an educational and informational information mechanism for pork producers 2.4-8	J. Morris Saskatchewan Pork Producers Marketing Board	ERDA(P) three years	70,000
Hog Expansion Project • analysis of the costs associated with developing and planning activities related to the expansion of the hog sector in Saskatchewan	J. Morris Saskatchewan Pork Producers Marketing Board	Sask Agriculture one year	14,112
Hog Producers Survey • determine attitudes and intentions of present and potential hog producers R-86-01-0158	K. Waschuk Tanka Research Regina	ADF one year	29,500
Saskatchewan Hog Assured Returns Programs • an analysis and study of options for maintaining the actuarial soundness of the SHARP program	J. Morris Saskatchewan Pork Producers Marketing Board	Sask Agriculture one year	5,000
Intensification of Sheep Production • apply techniques of reproductive management for intensifying lamb production 5-85-33	N.C. Rawlings W.E. Howell C.S. Rhodes R.A. Shoney University of Saskatchewan	SARF one year	30,000
Study of Market Opportunities for Saskatchewan Lamb • identify characteristics of the market for Saskatchewan lamb and mutton and propose strategies for exploiting and developing markets 2.6-3	J. Koal Saskatchewan Sheep and Wool Marketing Commission	ERDA(P) two years	20,000
Irrigated Sheep Pasture • determine if intensive sheep management along with irrigated forage production can produce a reasonable return to the producer 2.5-1	J. Koal Saskatchewan Sheep and Wool Marketing Commission	ERDA(P) three years	79,050
Alternative Feedstuffs for Saskatchewan Poultry • improve feed grains for poultry by dietary enzyme supplementation to alleviate problems caused by viscous carbohydrates occurring in barley, rye and oats, specifically improve rye by enzymatic disruption of pentosans R-86-01-0061	D.A. Christensen University of Saskatchewan	ADF one year	50,000

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Blood Testing in Saskatchewan Poultry • demonstrate the use of new technology in testing poultry blood samples and use of data obtained in improving disease control V-86-01-0071	C. Riddell University of Saskatchewan	ADF two years	15,000
Evaluation of Poultry Ration Ingredients • evaluate barley in poultry diets and develop a practical B-glucanase source for supplementing poultry diets R-85-01-3023	H. Classen G.L. Campbell B.G. Rossnagel G. Wassink R. Kuralak University of Saskatchewan	ADF multiple years	25,000
Nutrition in Horses • study feed utilization of horses and steers and study feed management as it relates to development of growing horses R-86-01-0146	N.F. Cymbaluk University of Saskatchewan	ADF three years	25,000
Goat Milk and Products Market Feasibility Study • determine and make recommendations on the market potential and feasibility of a Saskatchewan goat dairy industry by determining market potential, production potential and feasibility of establishing a goat milk processing industry V-86-08-0046	S. Garvin Harvest Foods Ltd Saskatoon	ADF one year	19,240
Herd Health of Game Farm Animals • study the effects of two vaccines to combat disease in various deer species on Saskatchewan game farms 2.4-15	J. Haigh Saskatchewan Game Farmers Association	ERDA(P) two years	15,000
Game Farming Industry Service and Research • produce an information manual and organize field days and training seminars for game farmers 2.1-9	J. Haigh University of Saskatchewan	ERDA(P) three years	24,750
Water Quality Improvement • research improvement of farm water by removing sulphates 2.2-12	D.A. Christensen University of Saskatchewan	ERDA(P) four years	25,000
Red Meats Impact Study • study the impact of government programs on red meat production	R. Eyvindson Intercombio Limited	Sask Agriculture two years	3,850
Venture Capital Corporations in the Saskatchewan Livestock Industry • an impact study regarding Venture Capital Corporation investment in Saskatchewan livestock industry	C. Wilkes Saskatchewan Stock Growers Association	Sask Agriculture one year	25,935

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Canadian Tax Treatment of Breeding Stock on Saskatchewan Livestock Industry • economic impact of Canadian tax treatment of breeding stock on the livestock industry in Saskatchewan	K. Rosaasen University of Saskatchewan	Sask Agriculture multiple years	7,600
Feedlot Development • develop large-scale feedlot complexes in two areas of the province-one in the Melfort area and one in the Central Butte area V-86-01-0059	J.A. Storey Beef Industry Developments Ltd Melfort	ADF two years	60,000
District 18 Livestock Development Needs Analysis • survey beef producers to determine information and services needed for more efficient, profitable beef production V-86-01-0078	W. Vanin District Board #18 Kamsack	ADF one year	1,492
IRRIGATION			
Irrigation Projects • for on-farm irrigation development	Irrigation Branch, Outlook Saskatchewan Agriculture	ERDA one year	703,691
Assessment of Area Specific Economics of On-Farm Irrigation Development • develop a simulation model for on-farm decision-making with respect to irrigation under Saskatchewan conditions R-86-03-0043	S.N. Kulshreshtha University of Saskatchewan	ADF four years	5,000
Assessing the Agronomic and Environmental Impacts of Using Poor Quality Groundwater for Irrigation • assess changes in salinity of soils irrigated with groundwater, determine if changes in quality of water in continuous surface aquifers can be related to the leaching of salts from the irrigated fields and assess the impact on source aquifers when groundwater is pumped for irrigation R-86-03-0118	J.A. Gillies University of Saskatchewan	ADF three years	4,000
Herbicide, Nutrient and Water Drainage from an Irrigated Field • determine the amount and quality of surface and subsurface drainage water after a rainfall and irrigation, irrigation efficiency, the opportunity for the reuse of irrigation drainage water and the effect of application techniques R-86-03-0056	W.N. Nicholaichuk National Hydrology Research Institute (NHRI) Agriculture Canada	ADF two years	21,700

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Plant Diseases of Irrigated Cereals • assess the incidence and severity and evaluate control methods of plant disease on irrigated cereals R-86-03-0017	L.J. Duczek Agriculture Canada Research Station Saskatoon	ADF four years	26,000
Management of Forage Production Under Irrigation • establishment of nine forage field trials for comparison purposes at Outlook Irrigation Centre R-86-03-0040	B. Goplen Agriculture Canada Research Station Saskatoon	ADF four years	22,500
Long-Term Improvement of Forage Production on the Maple Creek Irrigation Project • develop data base of the existing problems and soil conditions in the Maple Creek irrigation project and recommend demonstration projects aimed at modifying soil and management conditions to improve crop yields V-86-03-0047	D.R. Cameron Normac A.E.S. Ltd Swift Current	ADF one year	16,400
Optimizing Yields for Production of Industrial Starch and Table Stock Potatoes in Saskatchewan • determine which cultivars will regularly yield the maximum quantity of starch per unit area under irrigated production and demonstrate agronomic and irrigation techniques R-86-03-0042	D.H. Dabbs University of Saskatchewan	ADF four years	15,600
Evaluation of Field Bean as an Alternative Grain and Seed Crop For Irrigated Regions of Saskatchewan • determine the potential of dry beans as an alternative short-season irrigated crop, search for higher yielding, early maturing cultivars and generate information on crop management practices to optimize yield and quality R-86-03-0045	A. Slinkard University of Saskatchewan	ADF three years	26,330
Comparative Efficiency of New Low-Volume Applicators for Use With Herbicides • evaluate spinning disc nozzles for herbicide application on wheat under field conditions 8-85-46	R. Ashford K. Hatchard R.B. McKercher W.B. Reed University of Saskatchewan	SARF one year	8,500

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Screening for Phytopath Resistance in Cereal, Pulse and Oilseed Crops for High-Moisture Environs of Saskatchewan • establish an intensive irrigation field disease screening system at the University of Saskatchewan and begin disease screening for resistance to various diseases R-86-03-0051	B.L. Harvey University of Saskatchewan	ADF four years	20,800
Saskatchewan Irrigation Development Centre General Support Services • provide for supplemental support services for numerous irrigation research and demonstration projects being managed by the Saskatchewan Irrigation Development Centre V-86-03-0021	L. McLean Agri-Farm Consultants Ltd Strongfield	ADF four years	150,000
Saskatchewan Water Corporation • implementation of irrigation development programs V-86-03-0067	V.C. Fowke Saskatchewan Water Corporation	ADF multiple years	7,200,000
ENGINEERING			
Punch Seed and Fertilizer Placement Wheel for Conservation Farming • develop a spoked-wheel air seeder that can seed through large amounts of crop residue found on conservation farming fields and fabricate and field-prove with on-farm testing a commercial spoked-wheel air seeder comparing yields with conventional conservation seeding methods R-86-02-0039	R.B. Rogers Rogers Engineering Inc Saskatoon	ADF two years	36,900
Evaluation of the Conserva-pak Seeding System • conduct engineering research, evaluation and further development of seeding equipment for use in a conservation or zero tillage operation 3.2-2	J. Halford Vale Farms Ltd Indian Head	ERDA(P) one year	25,000
Stubble Bender • develop, test and refine "stubble bender" prototypes V-86-02-0081	G. Quaroni Vonda Welding and Machine	ADF two years	25,000
Compressed Natural Gas (CNG) Testing • determine economic viability of CNG on Saskatchewan farms V-86-02-0014	M. Wrubleski P. Gebhardt Saskatchewan Agriculture M. Sulatisky Saskatchewan Research Council	ADF four years	240,056

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Spray Technology • develop technologies that will increase the efficiency of pesticide application and thereby reduce costs to producers 1.2-1	R. Grover Agriculture Canada Research Station Regina	ERDA(F) four years	338,900
Precise Farm Navigation and Night Spraying • demonstrate using a navigation system to reduce spraying costs through lower application rate and elimination of overlap 1.3-10	G. Schwartz R. Palmer Accutrak Systems Ltd	ERDA(P) two years	13,000
Development of a Natural Air Drying System Using Horizontal Airflow • develop and test a prototype natural air drying system that speeds up drying and increases efficiency by distributing the air flow horizontally V-86-08-0072	K. Kernohan Univision Industries Ltd Humboldt	ADF one year	15,000
Effects of Heating the Inlet Air With a Burner When Natural Air Drying • determine and compile report on the effects of heating the air with a burner when natural air drying R-86-02-0117	D. Lischynski Prairie Agricultural Machinery Institute (PAMI) Humboldt	ADF one year	24,780
Evaluation of a PECO Berrymaster as a Harvester for Saskatoon Berries and Local Varieties of Raspberries • evaluate the suitability of a PECO Berrymaster for harvesting Saskatoon berries V-86-05-0093	E. Neufeld Riverbend Plantation Saskatoon	ADF one year	5,000
File Hills Integrated Agricultural/Ethanol Project • complete a comprehensive engineering and infrastructure analysis and design for a fuel ethanol and livestock finishing complex, secure the necessary financing package to construct and operationalize the project, secure long-term contracts to sell ethanol products and increase employment opportunities for Indian people V-86-07-0080	S.D. Jaycock File Hills Agri-Energy Inc Regina	ADF two years	300,000
Viability of Fermentation Products • examine all market sensitivity figures on grain alcohol products, consider the economic viability of grain alcohol plants and determine the economic effect when integrated with a cattle feeding operation V-86-07-0022	W.A. Wildeman Pound-Maker Feeders Ltd	ADF two Year	12,500

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Device for Measuring Relative Humidity in Dusty Barns • develop and test a device for measuring relative humidity in dusty barns 2.3-8	E.M. Barber University of Saskatchewan	ERDA(P) two years	4,000
Performance of Commercial Ventilation Controllers for Livestock Barns • study the performance of electronic and electromechanical controllers used in livestock barn ventilation systems 2.3-9	M. Jorgensen Prairie Agricultural Machinery Institute (PAMI) Humboldt	ERDA(P) two years	15,000
Swine Housing • study environmental factors in commercial swine barns and effects on swine health and performance 2.3-1	E. M. Barber University of Saskatchewan	ERDA(F) four years	82,000
Swine Barn Environment • investigate if summer temperature affects productivity of grower-finisher pigs and develop a device for on-farm measurement of feed consumption R-85-01-3031	G.I. Christison University of Saskatchewan	ADF multiple years	13,500
Swine Barn Ventilation • evaluate air distribution and pen micro-climate with alternate inlet and recirculation systems, develop and evaluate an electronic air inlet controller 6-85-68	E.M. Barber University of Saskatchewan	SARF one year	30,000
Livestock Facility and Pasture Management • provide modern livestock handling facilities at public pastures in each region 2.4-2	S. Lauder Saskatchewan Agriculture	ERDA(P) four years	18,582
HUMAN RESOURCES			
Economics - Top Management Model • monitor and analyze data from cooperating farms, cooperative work with winter wheat project, zero tillage and develop micro-computer programs R-85-04-3033	R. A. Schnoney E. Beaton A. Ulrich W. H. Furtan University of Saskatchewan	ADF multiple years	51,736
Top Management Computer Model • meetings and training courses on improving computer management techniques for farmers	T. Thorson L. Anderson G. Harrison A. Kapiniak R. Wallace R. A. Schoney	Sask Agriculture multiple years	56,000
Farming to Win • foster the development of private farm management services in the province 5.2-12	M. Pylypchuk Saskatchewan Agricultural Societies Association	ERDA(P) three years	253,250

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Title/Objective/Project Number	Project Manager/ Contractor/Institution	Funding Agency/ Project Length	Funding 1986-87
Upgrading Farm Management Skills • provide financial management information to farm business groups 5.2-4	L. Stavness Saskatchewan Agriculture	ERDA(P) three years	7,680
Farm Business Management Pilot Project • develop a farm business management extension model and provide business training for farmers in Northeast Saskatchewan 5.2-2	A. Blair Northeast Regional Council Tisdale	ERDA(P) two years	23,729
Farm Financial Management and Production Cost Data • collect cost of production data from Top Management farmers and conduct workshops to educate farmers to utilize cost of production data to better manage their farms R-86-04-0060	R.A. Schoney University of Saskatchewan	ADF one year	70,000
Income Tax Management Review • review the Income Tax Management publication for farmers in Saskatchewan	J. Dyck Deloitte, Haskins and Sells Associates Saskatoon	Sask Agriculture one year	2,500
Farm Input Price Survey • a survey regarding the level of variability of farm input prices between products and locations	S.N. Kulshreshtha University of Saskatchewan	Sask Agriculture multiple years	85,000
Feedstuffs Information Data Base for Saskatchewan Feeds • develop a computerized feedstuffs data base for Saskatchewan feeds 5.1-3	D.A. Christensen University of Saskatchewan Saskatoon	ERDA(F) three years	140,000
Microcomputer Training for Saskatchewan Farmers • increase computer knowledge among farmers and show the value of computers as a management tool 5.1-1	G. Blackmore Settler Computer Technologies Inc. Regina	ERDA(P) two year	12,250
Computers in Farming - A Homestudy Course • develop homestudy course available to farmers on using computers in their farm business 5.1-7	D. Wiebe Agriview Management Ltd Langham	ERDA(P) two years	10,000
Farm Computerization Survey • conduct market research to determine the extent of computer use by farmers 5.1-5	D. Wiebe Agriview Management Langham	ERDA(P) one year	23,000

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Two-Part Plan to Improve Information Flow to Extension Staff and Farmers With Microcomputers • provide computer training to Saskatchewan Agriculture Extension staff 5.2-3	D. Wiebe Agriview Management Ltd Langham	ERDA(P) two years	8,784
Farm Employment Needs Study • determine the extent of Saskatchewan farmers' needs for farm employees and identify the skills required 5.2-10	J. Hickie Saskatchewan Agriculture	ERDA(P) two years	17,250
Family Farm Skill Identification and Job Search Techniques • provide counselling for farm families making the transitions out of agriculture 5.2-5	D. Sutherland Eston	ERDA(P) one year	3,195
Farm Safety Workshops for Women • encourage women to take an active role in promoting safety on the farm 5.1-2	R. Rowley Saskatchewan Safety Council Regina	ERDA(F) three years	50,000
Nature and Extent of Stress in Farm Families • a pilot project to determine the extent and nature of stress in farm families 5.2-8	E. Burwell S. Gamble Saskatoon	ERDA(P) two years	20,000
Crisis Network for Farm Families • identify a feasible network of services that could more adequately respond to crises experienced by farm families 5.1-8	F. Driedger Family Services Bureau Regina	ERDA(F) two years	12,200
Farm Financial Systems and Land Transfer • provide information to Saskatchewan's agricultural industry and government policymakers regarding issues in farm credit and land transfer policy options	G. McGlaughlin Saskatchewan Wheat Pool	Sask Agriculture two years	6,250
Capital Configuration in Saskatchewan Agriculture • an analysis of alternative approaches to the capital configuration in Saskatchewan agriculture	W.W. Gamble FarmWest Management Ltd.	Sask Agriculture two years	7,250
Study to Determine How More Equity Funding Can Be Obtained for Agri-Business Requiring Less Than $1M in Funds • determine how more equity financing can be obtained for small agri-businesses V-86-04-0088	J. Beckton Beckton Agricultural Finance and Management Consulting Services Saskatoon	ADF one year	10,000

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Equity Capital Alternatives • investigate alternative methods of utilizing outside equity capital in agriculture and assess the relative merits of each	G. Simpson Carivale	Sask Agriculture one year	4,200
Agriculture Policy in Saskatchewan • advice respecting agricultural policy in Saskatchewan	A. Schmitz University of California	Sask Agriculture one year	27,500
Test and Evaluate Procedures for More Effective Use of Market Information for Financial Planning • investigate the need for effective use of market information in financial planning by using "Marketing-Management Clubs." 5.1-6	R. Bens Farmwest Management Ltd Saskatoon	ERDA(P) two years	10,000
Evaluate Technology Transfer in Ten Farm Business Groups in Northeast Saskatchewan • study the impact and effectiveness of farm management extension services in Northeast Saskatchewan 5.2-7	G. Arnott Glenco Agricultural Consulting Services Portage La Prairie	ERDA(P) one year	6,505
Educational Agricultural Policy Conference for Farm Leaders and Industry Spokesman • hold policy conferences featuring discussion of current issues with internationally recognized experts 5.2-6	G. Lee University of Saskatchewan	ERDA(P) three years	10,000
Revitalization of Agricultural Societies • develop methods to boost community participation in Agricultural Societies 5.2-11	H. Clark Saskatchewan Agricultural Societies Association	ERDA(P) two years	15,000
Government Programs That Impact the Agriculture/Food Industry of the Western USA • an overview and analysis on government programs that impact agriculture/food industries of the Western United States	B. Mehr Alberta Agriculture	Sask Agriculture two years	25,800
Evaluation of Saskatchewan 4-H Member and Leader Programs • determine a cost/benefit evaluation of current provincial 4-H activities and make recommendations to continue, discontinue or adapt the programs considering costs and benefits of each program V-86-06-0064	D. Hauer Saskatchewan 4-H Council	ADF one year	6,720

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ERDA Audit - Supply and Services Canada Audit Bureau • establish and report on validity of costs incurred and contribution payments made and ensure legislative requirements and terms and conditions of the applicable Sub-Agreement and contribution arrangements have been adhered to	C. W. Lefko Supply and Services Canada	Sask Agriculture one year	6,704
Food Processing Extension Coordinator • provide a Food Processing Extension Coordinator who will interface with industry, the university and government regarding the food processing industry in Saskatchewan V-86-06-0061	G.A. Jones University of Saskatchewan	ADF two years	20,000
Administrative Services to College of Agriculture (ADF) • administer ADF at the University of Saskatchewan R-85-09-3038 R-86-12-0070	G. Lee University of Saskatchewan	ADF one year	36,634
Communications • support for a communications package for ADF V-86-12-0069	H. Johnson Saskatchewan Agriculture	ADF four years	1,371
Communications Officer • coordinate production of annual report, ADF newsletters, project reports and audio/visual presentations and provide project information to the department, other government agencies and the media V-86-12-0050	H. Johnson Saskatchewan Agriculture	ADF four years	20,355

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Demonstration Project Summaries

Title/Objective/Project Number	Project Manager/ Cooperatove and Location/ Region	Funding Agency	Funding 1986-87
CROPS			
Demonstration and Evaluation of Intensive Cereal Management (ICM) Systems In Spring and Winter Wheat • demonstrate and evaluate advantages and disadvantages involved in cereal production using ICM principles D-86-05-0003	L. Koturbash District Board #26, Indian Head SE	ADF	7,000
Winter Wheat Production in South East Saskatchewan • in cooperation with the Crop Development Centre, transfer the latest winter wheat production technology to area farmers D-86-05-0021	G. McLean District Board #41, Carnduff SE	ADF	12,560
Nitrogen Fertilization of Winter Wheat • demonstrate the difference of applying 34-0-0 or 46-0-0 on winter wheat production D-86-05-0032	A. Anderson G. Swanson, Semans SE	ADF	226
Winter Wheat Production • use alternative seeding and fertilizer placement methods to demonstrate successful winter wheat production D-86-05-0133	K. Pedersen P. Eberle, Davin SE	ADF	201
Intercropping Winter Wheat and Barley • evaluate the potential for intercropping winter wheat and barley D-86-05-0097	L. Gutek M. Kiland, Hendon EC	ADF	450
Spring Seeded Winter Wheat With Barley Compared to Conventional Fall Seeded Winter Wheat • assess the viability of spring seeded winter wheat with a cover crop compared to conventional fall seeded winter wheat D-86-05-0149	V. Matschke Muller D. Bleakney, Turtleford NW	ADF	1,025

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Barley and Winter Wheat Seeding Demonstration • demonstrate the possibility of double planting an annual cereal with winter wheat under three different management systems D-86-05-0159	S. Adam M. Froc, Melfort NE	ADF	556
Minimum vs. Maximum Inputs in Barley Production • demonstrate using a growth regulator on Johnston barley and the natural ability of a semi-dwarf when both are grown under high levels of management D-86-05-0075	T. Boyle L. Christopherson, Weldon NE	ADF	594
Durum Compared to Spring Rye • demonstrate whether durum wheat is an economically feasible alternative to spring rye on sandy soil in the black soil zone D-86-05-0073	F. Howell K. Odnokon, Blaine Lake NW	ADF	212
Sampson Semi-Dwarf Demonstration • demonstrate the adaptability of Sampson semi-dwarf barley in the parkland area D-86-05-0080	B. Swanson D. Hazelwood, Prince Albert NE	ADF	550
High Moisture Barley Treatment • demonstrate high moisture barley treatment utilizing anhydrous ammonia D-86-01-0106	L. Reeve District Board #20, Wynyard EC	ADF	1,235
Salinity Plant Varieties Trials • demonstrate establishment and yield of barley and sorghum on salt-affected soils D-86-05-0082	W. Kehler D. Pettem, Assiniboia SW	ADF	40
Clover Ploughdown Demonstration • demonstrate the benefits of nitrogen fixation and improvement of soil tilth by growing Yellow Blossom Sweet Clover or Red Clover in a companion crop D-86-11-0040	P. Shukin District Board #22, Saskatoon WC	ADF	1,350
Fertility Clover Rotations • evaluate and demonstrate the benefits, if any, of using sweet clover in a two-and-three-year rotation with and without fertilizer as a soil improvement crop D-86-05-0167	L. Koturbash H. Hess, Candiac SE	ADF	507

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Maximizing Canola Yields • demonstrate increased yield potential of canola using optimum levels of crop nutrients and an application of fungicide for sclerotinia stem rot control D-86-05-0076	E. Sten Meadow Lake Dst SIAP Bd IR	ADF	1,177
Cross Seeding Canola • evaluate double seeding of canola with respect to yield and maturity D-86-05-0096	L. Gutek W. Bindig, Kuroki EC	ADF	249
Sulfur on Canola • demonstrate the response of a canola crop to the addition of sulfur fertilizer D-86-05-0122	K. Beaulieu D. Morin, Hudson Bay NE	ADF	48
Sulfur Deficiency in Canola - Low Versus High Areas in Field • determine what levels of sulfur are required for canola production D-86-05-0128	D. Cubbon District Board #20 Meadow Lake NW	ADF	600
Canola - Peas • evaluate the return by intercropping field peas and Triazine-resistant canola D-86-05-0069	H. Lang R. Torwalt, Leroy NE	ADF	1,200
Intercropping Peas and Canola • continue intercropping peas and canola and evaluate a rotary drum cleaner for separation of seed mixture D-86-05-0095	L. Gutek R. Petersen, Rose Valley EC	ADF	300
Peas and Canola Interseeding • demonstrate the management program of peas and canola production D-86-05-0105(a)	L. Reeve G. Cooper, West Bend and D. Thornton, Dafoe EC	ADF	500
Carry Over Effect of Field Peas • compare the yield of a wheat crop following a Scout barley/pea mixture D-86-05-0011	F. Howell B. Neudorf, Rosthern SE	ADF	224
Cereal and Special Crops • demonstrate and test latest technology required in the production of cereal and special crops such as mustard, lentils, safflower, winter wheat, malting barley and canary seed D-86-05-0049	M. Ruszkowski District Board #22, Biggar WC	ADF	3,920

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Legume Evaluation • evaluate Red Clover, Sainfoin and Cicer Milkvetch for hay crops in the Moose Mountain area D-86-05-0139	L. Koturbash J. Minter, Kipling SE	ADF	624
Feed Value Related to Harvest Stage of Silage Corn • determine the effect on feed value of corn silage of up to 10 of the most recently recommended hybrids at three levels of maturity and to conduct corn evaluation trials as directed by the Saskatchewan Corn Committee D-86-03-0155	W. Hurd Saskatchewan Corn Committee, Outlook WC	ADF	3,000
Winter Rapeseed • demonstrate the suitability of growing winter rapeseed in Northeast Saskatchewan D-86-05-0175	K. Beaulieu H. Nikonetz, Hudson Bay NE	ADF	175
Winter Rapeseed • evaluate the production of winter rapeseed in the Prince Albert area D-86-05-0188	B. Swanson District Board #32, Prince Albert NE	ADF	441
Fertilizer for Forage Crops • using deep banding fertilizer techniques demonstrate effects on forage production on the Big River Reserve D-86-05-0026	L. Stalwick Shellbrook SIAP, Shellbrook IR	ADF	640
Fairlight Forage Project • provide information on suitability of grasses, rotation patterns, chemical weed control, benefits of forage crop fertilization and carrying capacity of pasture for farmers in the region and other parts of Saskatchewan D-86-01-0058	J. Pollock Fairlight Forage Association, Moosomin SE	ADF	6,874
Forage Management • demonstrate to local hay producers the the importance of applying proper rates of fertilizer to maximize economic returns from hay production D-86-05-0090	E. Johnson P. Marshall Agricultural Services, Unity NW	ADF	441
Utilizing Specialty Forages • have agronomic practices recommended for successful establishment, production and harvesting of three specialized forage crops assessed for correctness D-86-05-0093	L. Koturbash Ferch Farms, Kipling SE	ADF	2,992

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Salinity Control Using Forages and Cereals • demonstrate methods of obtaining forage and cereal production from areas that are affected with moderate to severe salinity D-86-05-0131	W. Vanin J. Stusek, Canora EC	ADF	1,200
Cereal Crops for Forage Production in the Southwest • determine and demonstrate how the feed supply for cattle in southwest Saskatchewan can be increased through the use of annual forage crops and determine if fall rye can be successfully underseeded D-86-05-0137	D. Barber Southwest Saskatchewan Forage Co-op Association, Swift Current SW	ADF	6,118
Hay Stabilizer Project • demonstrate Hay-Treet as a hay stabilizer to reduce or prevent hay losses from spoilage D-86-05-0043	J. Holm J. and M. Hay, Bradwell WC	ADF	418
Maximizing and Preserving Quality of Hay • demonstrate a practical method of harvesting hay at higher moisture levels to minimize loss and maximize quality D-86-05-0156	P. Petersen R. Bilokreli, Theodore EC	ADF	680
Maximizing and Preserving Quality of Hay • demonstrate a practical method of harvesting hay at higher moisture levels to minimize loss and maximize quality D-86-05-0162	W. Vanin D. Lisoway, Stenen EC	ADF	680
Brush Control • demonstrate control of brush in native pasture to reclaim the land for grazing D-86-12-0046	L. Koturbash H. King, Corning SE	ADF	900
Brush Control • demonstrate recommended herbicide treatments for brush control and evaluate the cluster sprayer as a herbicide applicator D-86-05-0060	B. Hansen B. Peckover, Lampman SE	ADF	367
Brush Control • demonstrate recommended herbicide treatments for brush control and evaluate the cluster sprayer as a herbicide applicator D-86-05-0140	B. Hansen R. Hookenson, Lampman SE	ADF	367

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Fruit Variety Testing and Production • ascertain varieties of strawberries which will do well under commercial production and establish the economic value of a commercial strawberry plantation in northern region of Saskatchewan D-86-08-0014	R. Brassard R. and P. Baynton, Lloydminster NE	ADF	2,800
Management of Native Blueberry Stands • increase production of native blueberry crops in northern Saskatchewan D-86-05-0018	L. Stalwick Shellbrook District SIAP Board Shellbrook IR	ADF	2,973
Demonstration Orchard • evaluate the adaptation of various fruit tree varieties for production in the local area D-86-12-0027	L. Lee D. and O. Craig, Carrot River NE	ADF	419
Demonstration Orchard • evaluate the adaptation of various fruit tree varieties for production in the local area D-86-12-0125	L. Lee S. and N. Zadorozny, Nipawin NE	ADF	120
Demonstration Orchard • evaluate the adaptation of various fruit tree varieties for production in the local area D-86-12-0143	L. Lee D. and D. Scott, Garrick NE	ADF	287
Pedigreed Seed vs Elevator Cleaned Seed • demonstrate the economics of using pedigreed seed including reduced seeding rate, even emergence, even stand, uniform uniform maturity and yield advantages D-86-05-0016	A. Anderson District Board #37, Strasbourg SE	ADF	563
Pedigreed Seed Usage • demonstrate differences of pedigreed seed versus bin run seed D-86-05-0105 (d)	L. Reeve B. Sveinbjornson, Wynyard EC	ADF	286
Soils, Diseases and Insects • demonstrate a method of improving northern solonetzic soil, demonstrate a control method for the lesser clover leaf weevil and demonstrate better weed control methods in alfalfa for seed production D-86-05-0020	E. Tanner District Board #26, Tisdale NE	ADF	19,825

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Sclerotinia Stem Rot Study • assess the effectiveness of doing a flower petal analysis to determine the presence of and severity of sclerotinia stem rot infection D-86-05-0071	H. Amundson Shellbrook Crop Production Club, Shellbrook NW	ADF	96
Weed Control • demonstrate various spraying treatments on Canada Thistle patches D-86-05-0105	L. Reeve District Board #20, Wynyard EC	ADF	108
Weed Control • demonstrate different herbicides and application methods to control or kill hard-to-control weeds such as Canada Thistle, Scentless Chamomile and Quackgrass D-86-05-0120	M. Ayars District Board #13, Melville EC	ADF	1,116
Fertilizer Demonstration • demonstrate effects on yield and maturity from banding minimal and optimal rates of fertilizer D-86-05-0062	G. Dorn D. Runns, Sintaluta K. Carrier, Craven IR	ADF	1,991
Fertilizing Seeded Pasture • demonstrate the value of fertilizer in increasing yields of brome grass D-86-05-0029	F. Howell A.R. Horner, Blaine Lake NW	ADF	189
Canada Thistle Control With Reduced Herbicide Rates • demonstrate new technology for controlling Canada Thistle using reduced rates of of herbicides D-86-05-0161	Z. Lewchuk East Central Regional Soils and Crops Committee, Yorkton EC	ADF	1,350
Land Reclamation With Roundup • effect permanent renovation to a field infested with quackgrass, demonstrate difference between chemical and mechanical eradication and compare cost effectiveness of both methods D-86-04-0164	D. Whitehead J. Gopher, Cochin IR	ADF	700
Continuous Cropping vs Normal Cropping • compare the net returns received from from a continuous cropping operation with that of a 50/50 cropping practice D-86-05-0051	B. Rapp H.D. Sutherland, Eston WC	ADF	715

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Extended Cropping • demonstrate response to varying fertilizer rates and economic feasibility of fertilizer use on stubble in an extended crop rotation and demonstrate advantages/ disadvantages and constraints to extended cropping system D-86-05-0102	P. Petersen E. Maystrowich, Yorkton EC	ADF	960
SOILS			
Soil Degradation • demonstrate methods of improving soil organic matter or improving production on saline soils and make farmers consider the amount of soil degradation which is occurring D-86-05-0006	K. LePoudre District Board #15, Davidson WC	ADF	7,996
Utilization of Non-Productive Saline Soils by Growing Kochia • establish kochia on a saline area to control further spreads of salinity and mix forage with feed for dairy heifers D-86-05-0042	J. Holm and P. Shukin P.W. Martens, Aberdeen WC	ADF	195
Saline Soil Management • demonstrate that saline soils can be effectively managed using perennial forage cover and demonstrate that saline areas which are marginal for cereal production can produce higher returns under perennial forage D-86-05-0114	L. Moats D. and O. Sedgwick, Elrose WC	ADF	389
Salinity • demonstrate cropping practices as a method of controlling the spread of salinity and/or reclaiming saline soils and demonstrate tile drainage as a method of reclaiming saline soils and/or stopping their spread D-86-10-0129	M. Ayars District Board #13, Melville EC	ADF	828
Salinity Management • maintain tall wheatgrass to increase productivity and economic returns on a saline area D-86-12-0132	K. Pedersen D. and H. Leonard, Regina SE	ADF	304
Salinity Management • maintain slender wheatgrass and alfalfa to increase the productivity of a severely saline area D-86-05-0135	K. Pedersen B. Bruce, Lajord SE	ADF	599

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Saline Soil Forage Adaptability • determine which forage crops are best suited for specific saline soils as well as methods of getting a reasonable yield D-86-05-0152	P. Petersen E. Chipeur, Rokeby EC	ADF	3,192
Soil Fertility and Conservation • demonstrate the effects of potassium chloride on yield and disease resistance on crop production D-86-10-0048	M. Ruszkowski District Board #23, Biggar WC	ADF	2,598
Salinity - Fertilizer Trial • using continuous cropping, halt the spread of salinity and demonstrate how various rates of nitrogen fertilizer affect yields D-86-10-0084	W. Kehler E. Brisebois, Kincaid SW	ADF	300
Fertilizer Use Efficiency • demonstrate the most efficient use of fertilizer with respect to yield and cost for barley production D-86-05-0094	L. Gutek E. Bjerland, Rose Valley EC	ADF	474
Fertilizer Placement Study • assess the value of using split application of phosphate fertilizer (11-51-0) in combinations with cross-seeding of flax D-86-05-0098	L. Gutek E. Scott, Rose Valley EC	ADF	550
Phosphorus Fertilization • using soil analysis and high rates of phosphorus, increase soil-available phosphorus on eroded areas and thereby increase soil fertility and crop production D-86-11-0136	K. Pedersen W. Schmidt, Lumsden SE	ADF	330
Variable Rate Fertilization of Eroded Knolls • demonstrate the effect of variable rate fertilization of eroded knolls D-86-10-0047	P. Shukin District Board #22, Saskatoon WC	ADF	450
Fertilizing Eroded Knolls • show that heavy rates of phosphorus application will increase production on eroded knolls D-86-05-0112	L. Moats H. Mutlow, Fiske WC	ADF	360
Micronutrient Test • compare the crop response on soil that has been treated with micronutrients to that of untreated areas D-86-05-0070	H. Amundson Shellbrook Crop Production Club, Shellbrook NW	ADF	170

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Extended Cropping Fertility • on fields which have been continuously cropped, determine if additions of nitrogen would result in an economic response even though soil test results suggest none is required D-86-05-0108	D. Simmons L. Huber, Lipton EC	ADF	299
Comparison of Nitrogen Incorporation and Top Dressing • evaluate the practice of applying ammonium nitrate fertilizer as a post-emergent broadcast operation on spring wheat D-86-05-0130	W. Vanin E. Fissel, Pelly EC	ADF	1,325
Potash Trial • monitor the soil response using recommended potash rates on a potassium deficient soil D-86-10-0148	V. Matschke Muller P. and M. Stolniuk St. Walburg NW	ADF	108
Deep Ripping • test the feasibility and benefits of deep ripping of soils D-86-11-0169	H. Nickel B. Nash, North Battleford NW	ADF	430
Assessment of Yield Response to Deep Ripping • assess the value of deep ripping moderately solonetzic soils in the dark brown soil zone and produce information on crop response to deep ripping D-86-05-0195	B. Hansen L. Lisafeld, Lampman SE	ADF	960
Deep Ripping • compare potential yield difference and check to determine if ripping of the subsoil will have any effect on the surface pH on a field with low pH D-86-05-0078	R. Brassard R. Foisy, Cut Knife NW	ADF	595
Soil Conservation Through Extended Cropping • demonstrate extended cropping programs of minimum tillage and no tillage as compared to conventional fallow cropping D-86-10-0221	J. Graham District Board #8 Moose Jaw SE	ADF	23,659

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Crop Rotation for Soil Conservation • demonstrate the practical and economic feasibility of a specific crop rotation (sequence) in a continuous cropping program with soil conservation as a major objective D-86-05-0101	P. Petersen L. Liebrecht, Yorkton EC	ADF	1,000
Conservation Farming Techniques • demonstrate and evaluate conservation farming practices and provide an on-farm performance evaluation of the "Conserv Pak" D-86-10-0023	L. Koturbash District Board #6, Indian Head SE	ADF	2,786
Soil and Water Conservation • prevent deterioration in land quality from summerfallowing with tillage implements, try to control the spread of salinity by better water management and use legumes and other forages in the rotation to help protect the soil organic matters and produce a hay supply D-86-11-0166	D. Tumbach District #10 ADF Demonstration Committee Swift Current SW	ADF	44
LIVESTOCK			
Pasture Demonstration • demonstrate the usefulness of a savory grazing system in a cow/calf operation D-86-01-0019	F. Howell A. and H. Barth, Radisson NW	ADF	488
Value of Mineral Supplements on Summer Pasture • demonstrate the value of feeding mineral supplements on summer pastures D-86-01-0121	M. Ayars Crescent Grazing Cooperative Pasture, Melville EC	ADF	5,465
Rotational Intensified Grazing • demonstrate that Rotational Intensified Grazing (R.I.G.) increases stocking rates per acre while improving the stand of grass and reducing bush and other less desirable species D-86-05-0059	J. Pollock R. Duczek, Whitewood SE	ADF	2,034
Forage Feeding and Grazing • demonstrate and compare the most suitable crop combination for maximum tonnage and nutritional yield and visually observe the grazing capability of winter wheat and fall rye D-86-01-0104	P. Peterson T. Werle, Langenburg EC	ADF	3,734

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Chaff and Straw Ammoniation • demonstrate the techniques of chaff and straw ammoniation, including uncovered stacks, and the potential value of ammoniated chaff or straw as a feedstuff to southwestern cattle producers D-86-01-0184	B. Peterson Southwest Region Swift Current SW	ADF	3,905
Ammoniation of Chaff and Cereal Straw • demonstrate the application of anhydrous ammonia to chaff and cereal straw to create an economical feedstuff for wintering beef cattle and demonstrate alternative feedstuffs in Northeast Saskatchewan where traditional forage yields are drastically reduced by drought D-86-01-0189	J. Armstrong Northeast Region, Tisdale NE	ADF	619
Feed Testing and Ration Formulation • increase awareness of the importance of feed testing and balanced rations and determine the desire or need for a custom feed sampling/nutrition service D-86-01-0186	B. Hansen District Board #1, Estevan SE	ADF	1,103
East Central Feed Test Project • demonstrate the advantages of feed and water test and ration formulation D-86-01-0198	B. Fritz and L. Gutek East Central Region, Yorkton EC	ADF	4,500
Feed Testing and Ration Formulation • encourage livestock producers to improve feeding management and productivity by feed testing and ration formulation D-86-01-0199	L. Fedorowich District Board #19, Canora EC	ADF	841
Northeast Livestock Feed Services • provide 50 livestock producers of swine, beef and dairy with a feedstuffs analysis, rations and formulas for their particular livestock and assist in mix-mill calibration to reduce ration mixing error D-86-01-0204	J. Armstrong District Board #26, Tisdale NE	ADF	13,680
Baldwinton Feedlot Project • provide extension activities involving backgrounding and finishing of calves and improve management skills needed to operate farm custom feedlots by generating accurate data performance D-86-01-0077	R. Brassard Northwest Feedlot Management Committee Lloydminster NW	ADF	7,957

NOTE: EC – East Central
WC – West Central
SE – South East
SW – South West
NW – North West
NE – North East
IR – Indian Reserve

Title/Objective/Project Number	Project Manager/ Cooperator and Location Region	Funding Agency	Funding 1986-87
Range Management • demonstrate the least cost and most effective method of rejuvenating native grassland, most suitable forage varieties, range management and productivity of various forages on moderate-to-saline soils D-86-01-0151	B. Sim B. Bateman, Kelfield WC	ADF	2,000
Forage Sorghum Production for Beef and Dairy Cattle • encourage use of sorghum as a source of protein and fodder for livestock, analyze value of sorghum in the diet of young dairy and beef cattle D-86-05-0088	D. Gayton Saskatchewan Cattle Feeders Association, Saskatoon WC	ADF	11,913
Tagging Calves and the Tags Retention Percentage • determine which brand of identification tags best stand up under pasture conditions D-86-01-0127	D. Cubbon C. Wilson, Meadow Lake NW	ADF	246
Range Block Mineral and Cattle Identification • demonstrate the weathering ability and adequate consumption of mineral blocks and which tag identification system serves the best D-86-01-0187	L. Fedorowich M. Glute, Veregin EC	ADF	698
Net Pen Rearing of Rainbow Trout • demonstrate commercial production of Rainbow Trout in floating net cage enclosures, collect data on lakes, monitor growth rates and feed consumption and management necessary to operate a Rainbow Trout feedlot D-86-12-0123	G. Ivanochko K. Parada, La Ronge NE	ADF	9,100
Nuisance Bird Repellent Demonstration • demonstrate the usefulness of bird repellent products around machine sheds and other farm buildings D-86-12-0193	E. Tanner District Board #26, Tisdale NE	ADF	1,200
IRRIGATION			
Canola Varieties Demonstration • using all agronomic practices recommended for irrigated canola production, demonstrate on a field-scale basis a number of canola varieties from western and eastern Canada for use on irrigation farms by generating yield, cost and net returns D-86-03-005	T. Hamlin Sask Canola Growers Association, Melfort NE	ADF	4,480

Title/Objective/Project Number	Project Manager/ Cooperator and Location Region	Funding Agency	Funding 1986-87
Paraplowing Solonetzic Soil (Irrigated) • determine fertilizer requirements by paraplowing solonetzic areas on irrigated plots and taking soil samples D-86-10-0036	B. Hurd M. Millar, Birsay WC	ADF	300
Backflood Irrigation • experiment with management practices to solve existing weed and disease problems and facilitate increased hay production on the project area D-86-03-0134	K. Pedersen J. Schuurmans, Craven SE	ADF	316
Infrared Photography to Identify Irrigation Canal Seepage • using infrared photography, demonstrate the variability of crop growth between irrigation plots and within plots D-86-03-0154	J. Linsley Ponteix Water Users Association, Ponteix SW	ADF	800
Tall Wheat Grass Snowtrap Strips for Extended Cropping on Dark Brown Soils • use snow management in grass barriers for extended annual cropping D-86-08-0168	B. Hurd J. Harrington, Glenside WC	ADF	129
HUMAN RESOURCES			
Farm Management Improvement • improve management practices to result in increased grain production D-86-06-0025	K. Sten A. and E. Harper, Onion Lake IR	ADF	2,000
Agricultural Extension Survey and Monitoring • document and computerize by activity of district extension program, all ratepayers in District #20 through on-farm and telephone interviews D-86-06-0117	L. Reeve District Board #20, Wynyard EC	ADF	3,336
Understanding Soil Test Results and Procedures • demonstrate the importance of proper soil testing procedures D-86-06-0163	D. Simmons District Board #39, Fort Qu'Appelle EC	ADF	1,430

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Title/Objective/Project Number	Project Manager/ Cooperator and Location Region	Funding Agency	Funding 1986-87
SIAP Yorkton District Rapid Adjustment Farm Demonstration • demonstrate use of inputs on stubble crops to increase the average stubble yields on Indian farms in the district, encourage proper management of speciality crops and encourage time management D-86-05-0173	D. Domres Yorkton District Indian Reserves, Yorkton IR	ADF	6,219
Farmlab Evaluation Phase I • determine a method to evaluate the effectiveness and results of the Farmlab Demonstration Projects which were carried out by Saskatchewan Agriculture between April, 1981 and March, 1986 D-86-12-0192	J. Taylor Brystra Consultants, Regina SE	ADF	8,500
Farmlab Evaluation Phase II • evaluate and assess the methodology, effectiveness and results of the Farmlab Demonstration Projects which were carried out by Saskatchewan Agriculture between April, 1981 and March, 1986 D-86-12-0205	J. Taylor Brystra Consultants, Regina SE	ADF	12,500

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